MARLOW RFD

No. 1

37¢

SPECIAL
COLLECTOR'S
ISSUE

INSIDE:
HI-TECH
NOMADNESS!
•
PRODUCT
REVIEWS, TOO

Learning It
## Cold

TECHNOLOGY AND THE EDUCATION
OF THE ALASKA BUSH

So Powerful It Bends Light

Well, maybe not quite that powerful. However, version 3.0 of **Microsoft Excel** adds even more power to an already impressive arsenal of features. First and foremost, this is a *Windows* 3.0 application, so we're talking graphical interface here. It's also now possible to have Excel running side-by-side with your word processing or desktop publishing package. Or better yet, use the 3-dimensional capabilities of Excel to link multiple spreadsheets together to create complex interrelationships without ever batting an eye. The dynamic data exchange functions of Excel ensure that all linked data in any other spreadsheet is updated to reflect the changes that you make. Of course, when it comes time to start manipulating that data, you have 144 different functions at your disposal, including those for mathematical, statistical and financial calculations. There is even a function that can work backwards by constructing a formula based on the answer you give! For the Lotus faithful, you'll find that Excel understands the Lotus command set, so you're not the one who has to adapt. Certainly, such number crunching abilities are important, but as we all know, a picture is worth a thousand words. To that end, Excel provides no less than 68 charting and graphing formats to choose from, including 3-D. You can display them within spreadsheets or use them for business presentations. In fact, the graphing and presentation features are so powerful, you may never need to buy a dedicated presentation software package. Power and speed are addictive, so pick up a copy of Excel 3.0, and soon you'll see it has plenty of both.
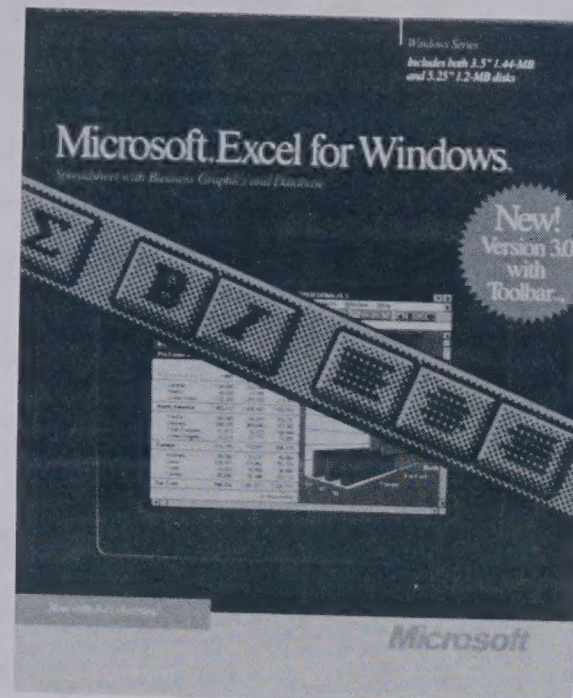
Microsoft ... NCP

2856 Excel 3.0 for Windows *(5¼" and 3½" versions included)* .... **$329.**
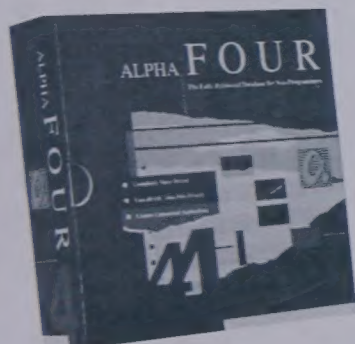
Simple Power

You may need a Ph.D. to run many database packages, but not if yours is **Alpha Four**. Alpha Four's relational capabilities let you set up files and generate reports easily, and its graphical environment is unsurpassed in its simplicity. Because Alpha Four is dBASE compatible, you can share files quickly and effortlessly. Rated "Best Buy" by *PC World*.

Alpha Software ... NCP
5104 Alpha Four 1.1
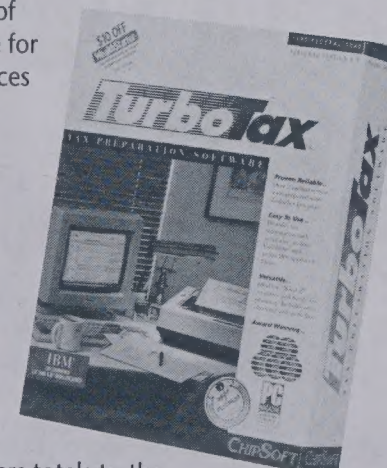*(5¼" & 3½" incl.)* .... **$319.**

Stick-It

Make quick work of your label printing projects with **Label Pro** from Avery. Imports dBASE, WordPerfect and many other file formats to eliminate tedious re-typing. Includes extra borders, graphics and clip-art to enhance your output on laser printers. Or use **Label PRO for Dot Matrix** to print on dot matrix printers. Software includes starter set of Avery labels.

Avery ... NCP
6006 Label Pro 1.0 for Laser *(5¼" 3½" versions incl.)* **$49.**
7336 Label Pro 1.0 for Dot Matrix *(5¼" 3½" incl.)* .... 49.

Many Happy Returns

If you agonize each year over the task of filing your personal tax return, it's time for you to take advantage of all the resources and support available. ChipSoft's **TurboTax** allows you to prepare and print your personal tax return by providing over 60 federal forms, schedules and worksheets on screen. TurboTax helps you to locate the appropriate forms, and features full mouse support, on-line tutorials, help screens and IRS instructions. Best of all, TurboTax performs all necessary calculations (even depreciation and amortization), and automatically transfers totals to the proper forms and schedules. The auditing feature allows you to check for missing or inaccurate information, so it's virtually impossible to make a mistake. TurboTax contains links to *Quicken*, *Managing Your Money*, and other financial packages so that much of your information can be imported automatically. In fact, with TurboTax you can plan ahead for the 1991 tax year. "IRS-approved" returns can be printed with any dot matrix or laser printer. Or, use TurboTax with your modem to file your return electronically. Forty-four separate state tax packages are also available for those states that have an income tax. Order today, and see why *PC World* has presented TurboTax its "World Class Award" five years in a row.

Chipsoft ... NCP
1663 TurboTax 8.01 for 1990 Taxes *(5¼" & 3½" incl.)* ...... **$45.**
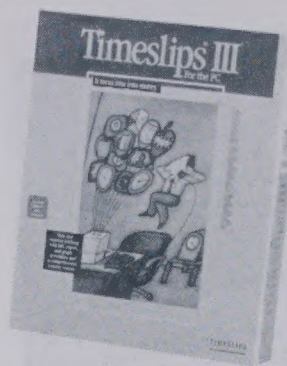
Punch the Clock

If your business charges clients on an hourly basis but has trouble keeping track of the time spent on various projects, try TIMESLIPS Corporation's **Timeslips III**. It's a memory resident utility that keeps track of time as you work, provides totals for that time, and even generates invoices for billing. Handles up to 3400 clients.

TIMESLIPS ... NCP
2987 Timeslips III 4.0
(5¼" version) .... **$195.**
2983 Timeslips III 4.0
(3½" version) .... **195.**
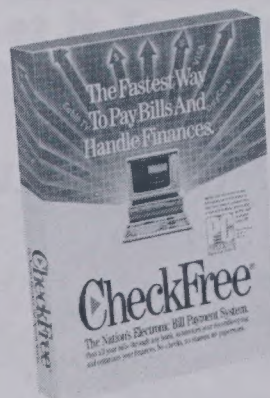
Electronic Money

So you use your PC to organize your whole life, but at month's end you still pay your bills the old fashioned way? With **Checkfree** from Checkfree Corporation, there is a better way. Start by entering payment information into your computer. Then, with a modem, you can electronically pay your mortgage, car loan, or gas bill in minutes. All this without ever licking a stamp.

Checkfree Corp. ... NCP
6360 Checkfree
(5¼" & 3½" included) ... **$19.**
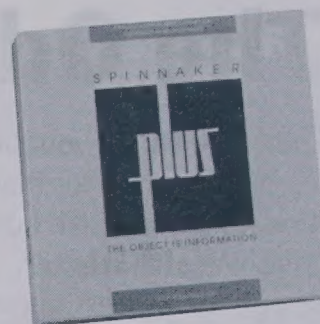
Freedom Of Choice

With **PLUS for Windows** from Spinnaker, you don't have to be limited to using one type of PC. PLUS for Windows allows you to write applications that look and behave similar to programs based on Windows, OS/2, or Macintosh platforms. The finest in hyper-programming application development environments. Choose yours today.

Spinnaker ... NCP
7604 PLUS for Windows 1.0 (5¼" & 3½" versions included) **$289.**

Get It Together

Keep track of legal, financial and personal records with **For The Record** from Nolo Press. Store information in one place: medical records, insurance policies, bank accounts, credit card numbers, even family history. Use **WillMaker** to prepare a legally binding will—list beneficiaries, name guardians, create a trust, and more.
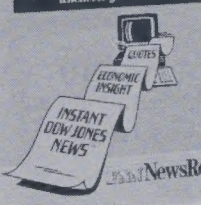
Nolo Press ... NCP
5122 For The Record 2.0 (5¼" and 3½" versions included) .. **$35.**
2982 WillMaker 4.0 (5¼" and 3½" versions included) .... **39.**
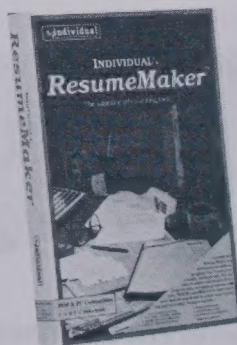
Play The Market

With **NewsReal** from FNN Data Broadcasting, you've got a stock market database on your PC. Besides providing you with current stock prices, NewsReal can also procure *Dow Jones News* stories and financial reports on any company you choose. Includes reporting services such as *Dun & Bradstreet, Barron's* and others. So stop wasting time searching for outdated information—get NewsReal and read tomorrow's news today.

FNN Data Broadcasting ... NCP
7005 NewsReal 1.0 (5¼" & 3½" versions included) .... **$99.**

A Word To The Wise

Do you need a more powerful word processor? If so, try Samna's **Ami Professional for Windows** and find out what you've been missing. Ami Professional features WYSIWYG page display, a 130,000 word spell checker, automatic page numbering, and headers and footers. Choose among bold, italic, super and subscript text. Cut and paste options maintain the feel of your other Windows applications as do the margin notes and dynamic data exchange. Combined with mail merge, macro programming, and extensive import and export capabilities (TIF, PCX, EPS, WMF, 1-2-3, dBASE, EXCEL), it's easy to see that such exceptional features make Ami Professional a super choice. Still not satisfied? Ami Professional also features a 40,000 word thesaurus, as well as table of contents and index capabilities. A selection of over 25 style sheets provides templates for some of the most common forms of correspondence, such as business letters and newsletters. Use them with drawing, charting and image processing features to effortlessly create professional documents. If all this is beginning to sound like a high-end desktop publishing package, then you're starting to get the idea.

Samna ... NCP
5799 Ami Professional 1.2 (5¼" & 3½" versions included) **$309.**

Perfect Resumes

Writing an effective resume isn't easy, unless you have Individual Software's **ResumeMaker**. Choose among three different format styles—chronological, functional or performance—to create a resume that reflects your goals most effectively. Use the built-in word processor to write cover letters, and keep track of interviews with the pop-up calendar. Includes samples from professional writers to get you started. Hard disk recommended.

Individual Software ... NCP
6222 ResumeMaker 1.3 (5¼" & 3½" versions included) .... **$29.**

Don't Play The Odds

A phone call from Ed McMahon could mean the end of your financial troubles, but the majority of us can't sit around waiting for that to happen. We all need to plan for the future, to diminish life's uncertainty. Take the first step with Reality Technologies' **WealthStarter**. WealthStarter leads you step by step through the process of creating a budget and defining goals for making investments. Graphing utilities allow you to visually monitor your budget and investments based upon goals and projections. Check your progress with monthly reports, even download your financial data from *Quicken*. And when you're ready, step up to **WealthBuilder**. WealthBuilder picks up where WealthStarter leaves off by providing more specific planning strategies. For instance, you may choose your own level of tolerance for risk, and with WealthBuilder, establish goals such as a college fund, the purchase of a new home, tax planning or retirement. WealthBuilder compares data for over 10,000 stocks and 1,400 mutual funds to help you select sound investment opportunities. With WealthBuilder, you can achieve your objectives using methods that won't keep you awake at night. Of course, you don't have to heed WealthBuilder's advice. In fact, you can perform "what-if" scenarios to mix and match investments to your best advantage. WealthBuilder's graphing capabilities allow you to compare stock performances head-to-head. And once you've made your decisions, data can be exported to *Quicken* or *Managing Your Money* to track your earnings in a way in which you're already familiar. Although it's possible to become a multi-millionaire by winning the lottery, wouldn't you feel better knowing you're covered? You know, just in case.
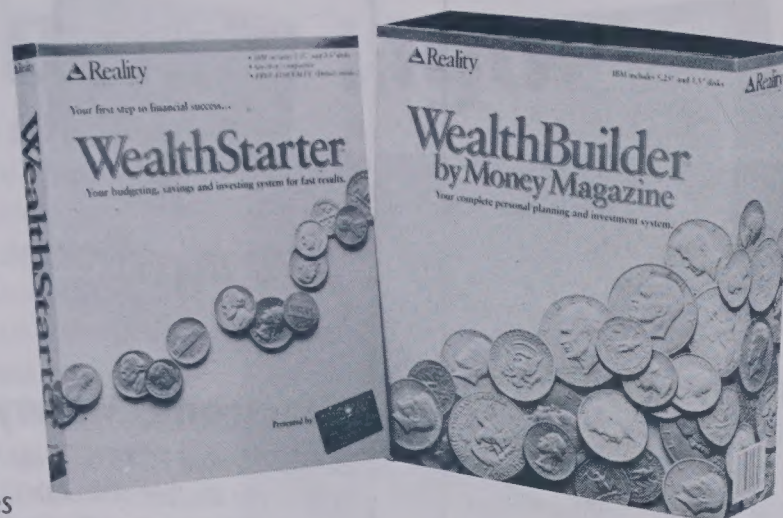
Reality Technologies ... NCP
7891 WealthStarter 1.0 *(5¼" and 3½" versions included)* .... **$39.**
6572 WealthBuilder 1.1 *(5¼" and 3½" versions included)* .... **145.**

The Right Way

Hold yourself accountable with the **One-Write Plus Accounting System II** from Great American Software. Includes master module, accounts receivable, and accounts payable. Write your own checks, keep track of inventory, and produce a wide variety of reports and journals. Winner of the coveted "Best Buy" award, *PC World* (3/89).

Great American ... NCP
4880 One-Write Plus Acct.
Sys. II *(5¼" version)* ... **$189.**
4881 One-Write Plus Acct.
Sys. II *(3½" version)* ..... **189.**

Presentation Pair

Software Publishing's **Professional Write** provides powerful editing tools without complexity. Includes 77,000 word dictionary, a 22,000 keyword thesaurus, and *Grammatik IV* to fine-tune your documents. With **Harvard Graphics**, you can add refinement and polish to presentations. *SlideShow* feature and powerful charting and graphing capabilities assure expert results.

Software Publish. ... NCP
3496 Professional Write 2.2
(5¼" version) .... **$169.**
7361 Professional Write 2.2
(3½" version) .... **169.**
3482 Harvard Graphics 2.3
(5¼" version) .... **329.**
6276 Harvard Graphics 2.3
(3½" version) .... **329.**

Fiscal Flair

**Andrew Tobias' Tax Cut** with **Managing Your Money** provides complete control over virtually every aspect of your financial life. Managing Your Money offers the power of full integration with regard to its investment, budget and check-writing capabilities. Using Tax Cut, all of your data is easily transferred to the correct tax forms. Filing your tax return doesn't get any easier than this. And all for the price of Managing Your Money alone.
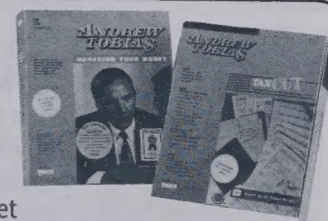
MECA ... NCP
8884 Andrew Tobias' Tax Cut & Managing Your Money Bundle *(5¼" and 3½" versions included)* .... **$129.**

Write Gooder Than Ever
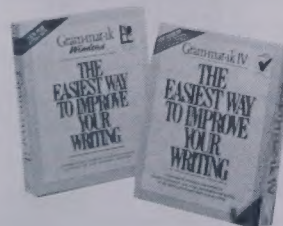
These days you need more than a simple spelling checker to proofread your writing— you need **Grammatik IV** from Reference Software. Grammatik IV checks your writing for errors in spelling, grammar, style, usage and punctuation. A summary report critiques your writing style. For Windows 3.0 users, try **Grammatik for Windows**.

Reference Software ... NCP
4396 Grammatik IV 2.0 *(5¼" & 3½" versions included)* .... **$59.**
7483 Grammatik for Windows 1.0 *(5¼" & 3½" included)* ...... **59.**

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Features

PAGE 12

Learning it Cold

Twenty years ago, rural Alaskans sued the state for the right to have high schools in every village. The state responded with technology. By Barry Sponder

PAGE 16

On the Loose In Dataspace

"Do you ever wonder," asks the author, "when technology will live up to its promise and really set you free?"
By Steven K. Roberts

Departments

"I am a woman nearly 70 years old, running a farm of 75 acres. To my mind, free delivery of mail matter in rural districts would be an inestimable boon to every one... Our men and boys would not so often be tempted to spend time and money in the billiard rooms and other similar places while waiting for the mail."
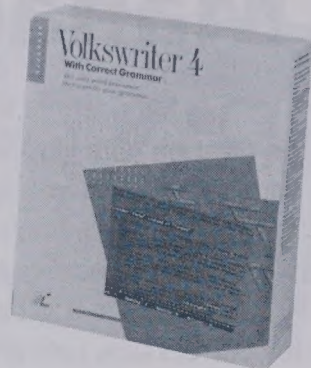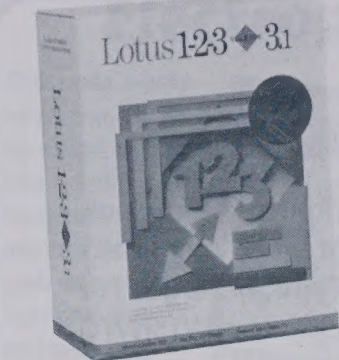— National Grange Proceedings, 1891

recycled paper

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Your Type Of Manager

Have you ever wondered why the print on your dot-matrix or laser printer doesn't look anything like what you see on your screen? Do you edit and re-print 5 or 6 times before you get what you were expecting to see? If so, you need **Adobe Type Manager for Windows**. ATM provides you with what Windows applications lack ... true WYSIWYG formatting and true WYSIWYP (What You See Is What You Print). With ATM, your on-screen images will appear in the correct size, font and position when they are printed. No more trial-and-error layouts. And as if that isn't enough, ATM for Windows also enhances all of your existing fonts. Screen fonts will appear sharper, with no more of those "sawtooth edges" that you are used to seeing. And because this is a Windows application, its integration into your applications is seamless. Want more? How about 13 additional typefaces to use with Windows applications? These are fully scalable Type 1 PostScript language versions of the most popular Windows typefaces (Times, Helvetica, Courier, & Symbol). And when it's time to print, you get type just the way you want it; the correct size, the correct style, and the correct spacing. ATM for Windows will enhance any printer output, even dot-matrix; all type looks as sharp as what appears on screen. Your printer output will look better than ever before.

Adobe Systems ... NCP
7547 Adobe Type Manager for Windows *(5¼" and 3½" versions included)* .... **$59.**

Creativity Unleashed

Maybe this has happened to you. You have an idea for a complex layout with overlays, drop shadows, curving text forms, color graphics and clip-art. After struggling for a while with your favorite paintbrush package it becomes obvious that there is no easy way to create those drop shadows, or curving letterforms. For that matter, there is no simple way to do anything you envisioned. So how do other people do it? Corel Systems' **CorelDRAW!**, that's how! Welcome to the single most powerful illustration package on the market, where your ideas become tangible results in a matter of moments. CorelDRAW!'s toolbox contains a full complement of powerful text manipulating features. Twist, stretch, or bend text to fit any shape you desire. The same tools work for graphic images as well. Auto-Trace allows you to expand, distort and compress graphic images. You can even paste items on top of each other and move them independently for exact positioning - without leaving "black holes" in your artwork. Extensive import and export capabilities mean your artwork can find its way to any document you choose. And because this is a Windows application, it's so easy to let your imagination run wild.

Corel Systems ... NCP
5506 CorelDRAW! 2.0 *(5¼" version)* .... **$389.**
5508 CorelDRAW! 2.0 *(3½" version)* .... **389.**

Capture the Moment

If you can see it on your screen, you can capture it with Application Techniques' **Pizazz Plus**. Pizazz Plus allows you to save images (text or graphics) in a variety of file formats like PCX, TIF, IMG and BIT. Advanced editing tools let you modify the image on the spot. Memory resident, requires 50K.
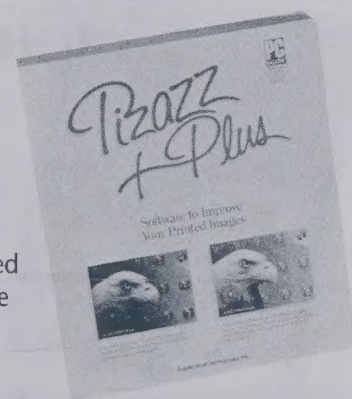
Applications Techniques ... NCP
1214 Pizazz Plus 2.0 *(5¼" and 3½" versions included)* .... **$69.**

Simply Powerful

Oftentimes, simpler is better. **Express Publisher** from Power Up Software embodies this ideal. Using Express Publisher you can create high-quality publications, newsletters and flyers with ease. Features scalable fonts, 300 dpi printer output, and includes over 100 clip-art images. Supports TIF, PCX, EPS and more. With Express Publisher it's dazzle without the hassle.
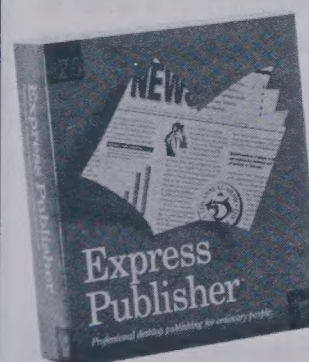
Power Up Software ... NCP
7858 Express Publisher 2.0 *(5¼" and 3½" versions incl.)* ...... **$89.**

Electronic Colorforms

There was a time when there was no simple way to add graphic images to documents. You'd grab scissors, tape and glue, and with these tools and some creative text, you'd put together what you wanted. Effective? Yes. Easy? Well, not really. Introduce yourself to **ClickArt for Windows** from T/Maker. If you're using Windows, you're already accustomed to applications far more capable and simple to use than ever before; and with ClickArt for Windows, your workspace is complete. With the high-quality images from T/Maker you can choose from rabbits to rocket ships. If you need to spruce up a business report, choose from the 1000+ business selections. Other categories include Holidays, Personal Graphics, and Publications. All images can export in .MSP or .PCX formats and support resolutions up to 300 dpi. And since you're using these with your Windows applications, adding them to almost any document is a snap.

T/Maker ... NCP

5540	Business Images for Windows *(5¼" version)*	**$45.**
4181	EPS Illustrations *(5¼" version)*	**85.**
5468	EPS Business Art *(5¼" version)*	**85.**

See our line listing for others.

The Best Gets Even Better

In the October '90 issue of *PC World*, **Aldus PageMaker** 3.01 was awarded one of the coveted 1990 "World Class Awards." And in 1991, with the release of version 4.0, it's headed for another. Aldus Corporation's PageMaker has no equal when it comes to integrating text and graphics—you can write, design and create professional-quality publications quicker and easier than ever before. PageMaker gives you versatility, power, and complete control over the entire process, saving you time and money.

PageMaker 4.0 provides extensive support for long documents, refined text-handling capabilities, and professional typographic controls. New features include a fully integrated Story Editor for comprehensive word processing, 100,000 word spelling checker, powerful search and replace features, and a Table Editor. It also offers more than 40 import and export filters so that you can combine text and graphics from any number of sources. With full WYSIWYG display and 35+ pre-designed templates for newsletters, proposals, etc., putting ideas together is a snap.

Aldus ... NCP

1332	Aldus PageMaker 4.0 *(5¼" version)*	**$499.**
4247	Aldus PageMaker 4.0 *(3½" version)*	**499.**
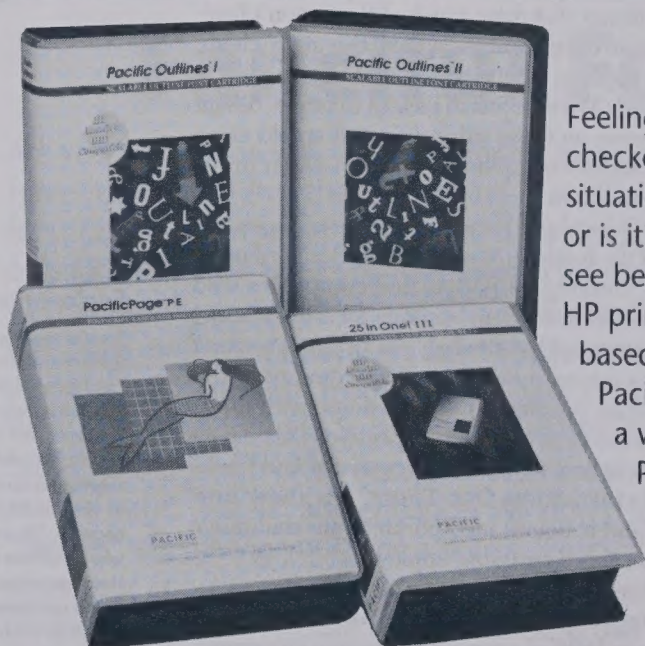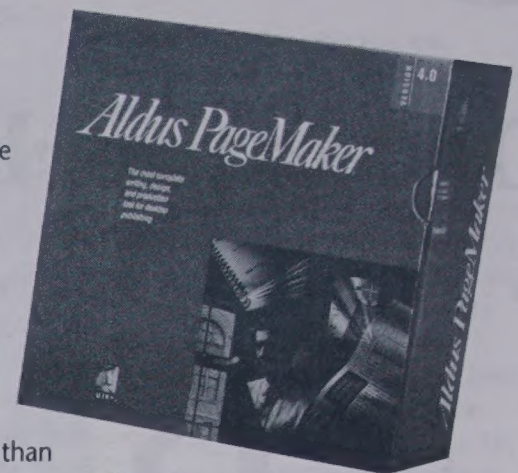
Hot-Rodding For Your LaserJet

Feeling a little inadequate lately with your present Hewlett Packard printer? If you've checked out the prices on the LaserJet series recently, you may feel you're in a hopeless situation. A new printer is too expensive and your current LaserJet is not powerful enough ... or is it? Items from Pacific Data Products can breathe life into your LaserJet and allow you to see better results than ever before. Start with **25 Cartridges in One!**. Compatible with any HP printer, 25 Cartridges in One! provides 172 fonts to choose from. Since this is a cartridge-based font system, there's no waiting for your printer to construct them (as with soft-fonts). Pacific Data's 25 Cartridges in One! fonts are immediately accessible and are supported by a wide variety of word processing and Windows applications.

Perhaps you have a LaserJet III and need the ability to scale your fonts. **Outlines I & II** cartridges are just the ticket. Each contains a wide variety of fonts, and each font can be scaled from 1 to 999 points in quarter point increments.

For fast HP-GL plotter emulation, add a **Plotter In a Cartridge** option to your LaserJet II or IIP and you'll be printing precise, high resolution CAD drawings. You could go all the way by installing the **PacificPage PE** and transform your LaserJet into a 100% compatible PostScript printer, with the sharpest output capabilities you've ever seen. And all at a price far below what you'd spend to get that new LaserJet III you dream about. So set yourself up with some accessories and "soup up" that LaserJet.

Pacific Data Products ... lifetime

6779	25 Cartridges in One! *(for LaserJet II, IIP, III)*			**$275.**
7632	Pacific Outlines I *(for LaserJet III)*	**$209.**	7631 Pacific Outlines II *(for LaserJet III)*	**209.**
6832	Plotter In a Cartridge *(Series II)*	**249.**	6831 Plotter In a Cartridge *(for LaserJet IIP, IID, III)*	**249.**
7158	PacificPage PE 4.0 *(for LaserJet IIP, III)*	**379.**	6834 PacificPage w/free 2 Mb Memory Board *(for LaserJet II)*	**379.**

Of Motherboards and Apple Pie

A few words on where we're coming from.

BY PATRICIA GALLUP

ROUTE 10 IN MARLOW, New Hampshire, is a sleepy stretch of highway that parallels the Ashuelot River for several miles before reaching the village proper. In the center of town it intersects Route 123, an even slower and more winding road that carries traffic from the hill towns and, farther off, from those on the banks of the Connecticut River. A grocery store/post office sits at the intersection. The skyline to the north is dominated by Bald Hill and Mack Mountain, two stubby knobs whose hardwoods have dropped their leaves for the season. I can see all of this from my office window.

Marlow, N. H. from the Lake.

Visitors driving through the area, noting the forests, the white-clapboard town buildings, and the absence of shopping malls, remark on how wonderfully unchanged this pocket of New England is. Coming from where they live, they are probably right. Change, after all, is relative. Strip plazas and fast-food chains have homogenized once-rural landscapes. The night sky has been lost on the eastern seaboard from D.C. to Boston.

But change happens everywhere, even here, even if not on the surface. These days, our quaint-looking town halls hold planning-board meetings that debate conservation easements and two-acre minimums. Area farms are as likely run by family trusts as by farmers still using the land for their living. Volvos and Saabs mix in with the logging trucks out on Route 10. And here in Marlow (pop. 562) — in the renovated mill building on the Ashuelot River, in the restored Victorian Christmas Trees Inn, in the old Cape next to the Inn — are the modern offices of PC Connection. Visitors passing by hardly even notice.

When David Hall and I started the company in 1982, it was no accident that we located it in Marlow. Like most of the 300 people who now work here, we are from this area and live here

by choice. We like what we are familiar with: clean air, clear water, open spaces, quiet roads — and the independence and life-style those imply. As much as we can, we have tried to create a company that exists in harmony with all of those things we value in these rural surroundings. We use local contractors and suppliers, recycle materials (even buildings) from top to bottom, and have an on-staff historian. We provide ski trails and studded snow tires to employees in winter. We allow time off for volunteer fire duty. In these and other practices, we see a vision for progress in rural America. It is the sort of progress that can, ultimately, allow people to use trees more sparingly and energy more efficiently, travel less often, communicate more clearly, work better and faster, and in the end enjoy the best of the future right alongside the best of the past.

Still, surrounded by fax machines, modems, computer networks, and overnight mail, those of us who work here realize we are living at the edge of a major cultural shift. Just as mass transportation did in the 'fifties and 'sixties, communication advances promise to shift populations toward the country, changing rural lives forever. As we prove to ourselves every day, it's no longer necessary to live in a metropolitan area to have access to those things that drive much of the nation's business. We can live where we want — where the air is clean, where there are open spaces — and access that information at the touch of a keyboard. We can, just to pick an example, design and produce a magazine on these subjects out of an old Cape off a desktop that includes a computer, a scanner, a laser printer, and a 2400-baud modem.

Marlow RFD will be about the convergence of those two worlds, the rural and the modern. It will include stories of innovation and creative thinking, of people and companies who are using progress and technology to improve their lives. Many magazines about progress and technology, unfortunately, don't deal with the issues raised by change. They deal with the products, but not the by-products. They are dense with information, but at times can lack human perspective. This magazine will try to give a little context and perspective and freshness to All That Information Out There. To show how technology can be (and is being) incorporated into traditional lives. To celebrate motherboards *and* apple pie.

The magazine takes part of its name from one of the country's truly great innovations, Rural Free Delivery, introduced by the postal service in 1896 as a way of connecting an expanding nation. RFD, as it became known, was designed to give people in the country all the privileges and access enjoyed by people in town. The experiment became such an accepted part of our rural fabric that it's hard to imagine the controversy surrounding its origins, but there was strong opposition then. ("It will kill our downtowns," said the merchants. "It will cost us jobs," cried the critics.) The same arguments are being made against today's expanding technologies. While there is strong temptation for "country" magazines to look backward and offer opposition to this electronic age by simply ignoring progress altogether, this magazine, when it looks back at history, will see that people have never stopped progress, only shaped it. There's much to be saved by the shaping.

A Bit of Explanation

If you're reading this right now, chances are you are one of the most recent customers of PC Connection. We thought that, while keeping you up to date on our price list (it's on pages 32-35), we'd take this chance to show you some of the people and stories behind the technology and products being used today.

Formidable Forms

Have you ever struggled with getting someone to design forms for your business? Have you ever tried to adapt someone else's forms to your application? Have you ever noticed that neither of these methods work very well? Sure you can pay someone to keep making changes to your forms until you have it just the way you want it, but why bother? With FormWorx Corporation's **Form Publisher for Windows**, you have the tools to create your own forms easily in-house. For starters, there are over 550 predesigned forms included with the package, and one of these might be exactly what you're looking for. If not, it's easy to quickly tailor them to your own taste, or simply use the library of symbols included with Form Publisher as the building blocks for completely original forms. Import graphics from any other Windows applications, and use any number of existing fonts. WYSIWYG display shows you exactly what to expect before you ever commit it to paper. Sometimes, to get the job done right you need to do it yourself. With Form Publisher for Windows, you can do just that.

FormWorx ... NCP
7311 Form Publisher 1.2 for Windows *(5¼" & 3½" incl.)* . **$139.**
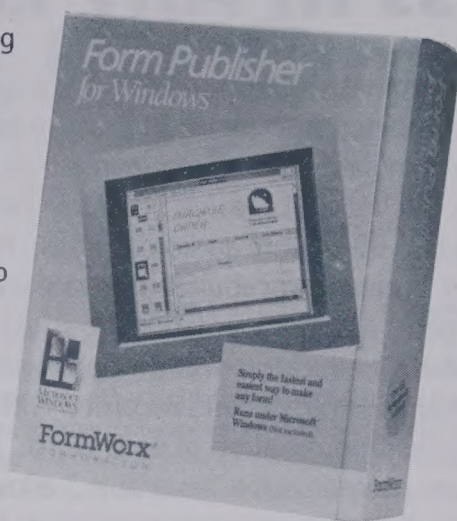
Flexible File Formats

It doesn't matter who you are, eventually you'll have the need to translate between differing PC graphic file formats. Call it "file incompatability," call it whatever you like. The bottom line is that you can't finish your work until a change is made. Here's where **HiJaak** from Inset Systems can help. HiJaak is designed to bridge the gap between applications with different file formats. Now you can take your PCX file and convert it to TIF, or translate MAC to MSP. HiJaak also supports many other file formats such as IFF, GIF, CUT, IMG, PCL, PIX, and WPG. In fact, it's hard to find any two formats that can't be converted. But it gets even better. Take a word processing file, convert it to FAX format and you can send it to any Group-3 compatible fax machine in the world. Or receive incoming faxes and open them within your favorite desktop publishing or paint package. And if all this isn't enough, HiJaak can also capture any text or graphic image displayed on your screen, even LaserJet output, and convert that too. Don't be held hostage by your applications, get HiJaak and start taking control of your files.

Inset Systems ... NCP
7298 HiJaak 2.0 *(5¼" and 3½" versions included)* .... **$99.**

Fanciful Fonts

Are you tired of the way your documents look when they're printed? Have you noticed that the tab spacing doesn't always line up, or that fonts (especially in larger point sizes) have sharp, jagged edges instead of smooth curves? Have you ever wished for more fonts to add variety to your reports and newsletters? If you answered "yes" to any of these questions, Bitstream's **FaceLift for Windows** can help. FaceLift provides Windows with true WYSIWYG and WYSIWYP (What You See Is What You Print) format. Such capabilities help to minimize discrepancies which often occur between the screen layout and the printed page. Facelift also enhances Windows' fonts by removing the "jaggies" and giving your type a sharp, "PostScript smoothness." To whet your appetite even more, FaceLift includes 13 additional fonts (Swiss, Dutch, Park Avenue, Cooper Black, Brush Script, etc.) to integrate directly into your Windows applications. With FaceLift you can now view exact font types on screen, all correctly sized and spaced. And as well as looking fantastic on your screen, they appear just as striking when printed on your dot-matrix or laser printer. Feeling left out because you don't use Windows? Don't worry. If you're a *WordPerfect* user, you too can benefit from many of those same features with **FaceLift for WordPerfect**. So stop making excuses for the way your documents look—start using Facelift and change their whole appearance. For Hewlett-Packard or compatible laser printers only.

Bitstream ... NCP
7568 FaceLift 1.0 for Windows 2.x/3.0 *(5¼" and 3½" versions included)* .... **$59.**
8040 FaceLift for WordPerfect 5.0/5.1 *(5¼" and 3½" versions included)* .... **59.**

Success In Any Language

VocabuLearn/ce from Penton Overseas offers a unique blend of digitally recorded sound combined with highly interactive foreign language vocabulary programs to help stimulate interest and increase comprehension in the area of foreign language. All VocabuLearn/ce programs contain three hours of crisp Dolby Sound, via two 90-minute audio cassettes. Penton Overseas has developed foreign language vocabulary software which promotes a user-friendly learning environment, making your language study enjoyable more rewarding.

Recommended by educators worldwide, VocabuLearn/ce is developed by professional language instructors and recorded with dialect-free native speakers, giving you an authentic pronunciation of each word. Additionally, all VocabuLearn/ce software programs are "reversible," allowing for both native and foreign language use.

Designed for all levels of learning, modules are available for vocabulary in the following languages: French, German, Hebrew, Italian, Japanese, Russian and Spanish. VocabuLearn/ce takes the fear out of learning a foreign language. Use VocabuLearn/ce to increase your foreign language vocabulary skills, and deliver fun, fast, and effective results!

Penton Overseas ... NCP

Level I	Level II				Level II	Level II				Level I	Level II			
7041	7043	Spanish	.... **each**	**$35.**	7035	7034	German	.... **each**	**$35.**	7037	7042	Russian	.... **each**	**$35.**
7032	7036	French	.... **each**	**35.**	7734	7735	Japanese	.... **each**	**35.**	7039	7038	Hebrew	.... **each**	**35.**
7033	7040	Italian	.... **each**	**35.**										

See The World

Software Toolworks' **World Atlas** brings you instant access to more than 240 fully detailed EGA/VGA color maps and an enormous database of international information. Provides comparative data for every country in the world in seven subject areas: Geography, People, Government, Economy, Communications, Defense Forces and Travel. Print high-quality maps or export in your choice of formats to desktop publishing, paint or word processing programs. Requires hard drive, 640K.

Software Toolworks ... NCP
7372 World Atlas (5¼") **$42.**   7373 World Atlas (3½") ... **$42.**

Easy As ABC
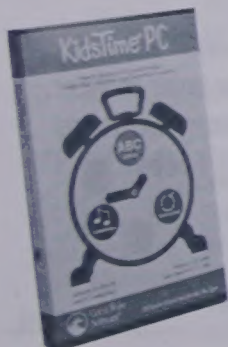
Introduce your children to computers using Great Wave's **KidsTime PC**. Includes 3 games: Dot-to-Dot, KidsNotes, and ABKey. Colorful graphics hold a child's attention as Dot-to-Dot and ABKey teach basic counting and letter recognition skills. KidsNotes helps to develop your child's interest in music. Ages 3-8.

Great Wave Software ... NCP
6888 KidsTime PC (5¼" version) .... **$25.**
9277 KidsTime PC (3½" version) .... **25.**
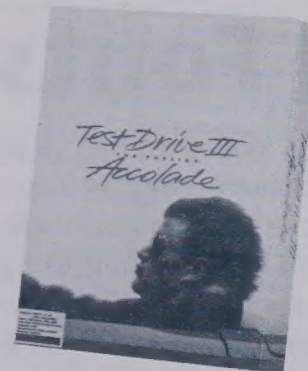
Speed Demons

Accolade's **Test Drive III: The Passion** allows you to experience the power and electrifying excitement of driving three exclusive prototypes: the Chevrolet CERV III, Pininfarina Mythos, and the Lamborghini Diablo. Features superb scenery and sound, night and day driving, snow, rain, working headlights and wipers, Instant Replay and 360 degree Chase Car View. Requires 640K, MCGA, EGA, VGA or Tandy 16 color video standard.

Accolade ... CP
8169 Test Drive III: The Passion (5¼" & 3½"incl.) **$39.**

Graphic Adventure
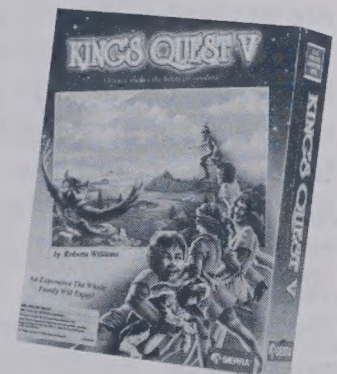
King's Quest V is the latest in this popular series of outrageous adventures, and features breath-taking VGA graphics and 256 colors. Other new features include Sierra's new "cinematic technology" for completely animated sequences, and digitized speech for added realism.

Sierra On-Line ... NCP
7972 King's Quest V (5¼")**$45.**
7982 King's Quest V (3½") **45.**
7971 King's Quest V-EGA (5¼" and 3½") .... **39.**

Bringing the Computer Home

A story for families with small children.

BY JAY HEINRICHS

EVEN BEFORE THERE WERE PCs, I had learned how to bring computers into family life, and vice versa. One day in college, while fiddling around with an old-fashioned terminal for a geography assignment, I found myself playing with a program that automatically wrote letters home. It would ask questions like: "How's the weather?" or "Taken any tests lately?" and would use the answers to hammer out a chatty note to the folks. My parents loved the mail the first couple of times I tried it, but they soon came to recognize the pat phrases and hole-edged computer paper as something other than my usual style. I was forced to compose my own letters again.

Which shows how computers can bring families together and, if you're not careful, pull them apart.

The trick is not limiting yourself to using the machines only for business. Sadly, surveys of home-computer users show that people persist in seeing their PCs as extremely expensive typewriters, thus denying their families a lot of fun. My wife and I have manipulated the most utilitarian software to play games with our five-year-old, produce refrigerator art, and teach our kids numbers and phonetics. Most of the software we use was never designed for these uses.

Actually, I've done the manipulating. My wife isn't fond of computer fun and games. But I'll get to that.

Normal uses of our computers have done great things for us. A modem and communications program allow me to hook up to my office and work at home a day or so a week. After three years of aborted attempts to computerize the family budget, we've at last succeeded in putting it on a spreadsheet. My daughter and I have used software for education: a chess program, for example, as well as math and reading games. I'm struggling with a tutorial in the international language Esperanto, and we use a nifty piece of free software by a Dartmouth College professor that lets you string together musical passages to make a Mozart sonata.

And then there are the games. What is a home computer without them? But you don't need ready-made games to play with your computer. Here are a few uses of programs that would startle even the techies who wrote them:

Word-processing games. My kid can't get enough of *Microsoft Word*. Just typing messages on the keyboard and having them show up on screen is fun for her. I'll change the font so that her words show up in Old English or Broadway, putting her in little spasms of ecstasy. We use the "Find" option from the menu to see how many times a word appears in one of my stories. The Word Count, Spelling, and Cut and Paste devices occupy her for hours (okay, minutes) at a time.

Spreadsheet graphics. Use charts and graphs in spreadsheet programs to teach your kid the visual side of numbers.

Desktop-published letters to friends and relatives. When Dorothy Jr. was born, Dorothy Sr. began producing a newsletter called "Baby Times." The name changed to "Toddler Times" when Dorothy Jr. started walking. Dorothy Sr. would print up copies of snapshots and paste them onto photocopied newsletters with captions and headlines like "Solid Food: Thank Goodness" and "Baby Shot, Recovering" (after Dorothy Jr.'s first inoculation). My wife, alas, used a typewriter. Page-layout programs weren't available at the time, and I doubt she would have used them anyway. But don't let that stop you.

Desk accessories. Our talking program is great for teaching phonetics. Type something, and the computer will say it. (With a few adjustments, we've made it imitate Mickey Mouse and Meryl Streep.) The most imaginative use of PCs, however, was devised by George, age two. He has taken an old mothballed IBM-compatible and learned to drive it. He steers the keyboard, turns the monitor on and off to watch the switch light, and stares into the blank screen as if it were a windshield.

But don't be misled by this Norman Rockwell scene. Trouble occasionally lurks beneath the surface, and my wife is the cause. She thinks chess is more fun with a real board and wooden pieces. She writes thank-you's with a pen, on attractive notepaper. She drives the rest of us crazy. For instance:

Having forgotten to bring an important computer file to the office, I once called Dorothy Sr. at home and asked her to send it over by modem.

"I was just going into town anyway," she said. "I can drop it off."

"No, that's okay," I told her. "Just modem it over."

"But I can be in your office in ten minutes."

"You need the practice. It's good for you," I said, failing to add that I still get a kick out of receiving files over the telephone.

Half an hour went by, and the file didn't show up. Neither did Dorothy. Finally I got a call from her. The voice sounded distant and fuzzy.

"I'm calling from a pay phone," she explained.

"Why? What happened to the one at home?"

"I couldn't get the [expletive deleted] computer to send that file, and I was afraid I might break the thing."

"Oh, come on, Dorothy," I said. "You know you can't break a computer by using the modem."

"The hell with the modem," she said. "I was about to throw the computer out the window."

Which brings me to the original moral of this story: computers can bring families together, but it can also tear them apart—at least from their computers. ∞

Home Software

We use a Macintosh SE, but everything we do can be done with IBM-compatible programs.

Microsoft Word 4 (word processing, games)

Aldus Pagemaker 4 (Christmas cards, kids' posters)

Microsoft Works (family budget)

Andrew Tobias's Managing Your Money (frankly, the IBM version is better than the Macintosh one, which is why we now budget on Works)

MacTalker (phonetics, etc.)

Find File (word games)

The Chessmaster 2000

Kid's Time (an assortment of games for children)

Number Maze (the best math program for kids under eight)

Mozart (a public-domain educational program by Dartmouth Music Professor Jon Appleton)
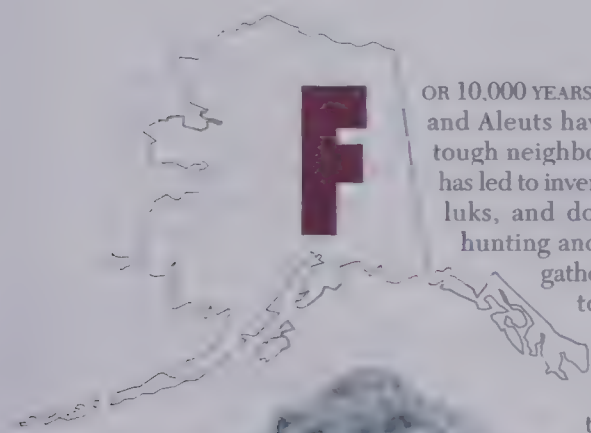
    - J.H.

LEARNING IT COLD

Offering hope for Native cultures, computers move to the heart of rural Alaska.

BY BARRY SPONDER

F OR 10,000 YEARS, Eskimos, Indians, and Aleuts have flourished in a tough neighborhood. Necessity has led to invention: kayaks, mukluks, and dogsleds, tools for hunting and fishing and food gathering, dance masks to make life more harmonious with the spirit world. For 10,000 years, technologies in the Arctic have evolved

toward subsistence, creating stable cultures dominated only by tradition and the harsh environment. In the space of a generation, however, the dominant forces of everyday life have changed. New skills are demanded by America's service-oriented, cash economy; assimilation has become a necessity for survival.

In America a primary force for assimilation has long been public schooling. Twenty years ago, Alaska Native students in some rural primary schools were falling a year and a half behind the rest of the country every year they walked through the door, and then as high-school-aged students — because there were no local high schools — were being sent off to boarding schools, often outside Alaska. Instead of assimilation, however, the boarding schools typically resulted in cultural alienation and academic failure. Alaskan students were creating a history of underachieving or failing in mainstream American classrooms, classrooms that usually tried to change students to fit the school system rather than modify the schooling to fit the students. The chances for the very survival of Native cultures were in serious question.

In the early 1970s Alaska Natives successfully sued the state for the right to have public high schools in each rural village. The state, recognizing the enormous challenge of providing resources to such remote and inaccessible places, turned to technology. By allowing villages to utilize existing buildings and staff members, an infrastructure for rural learning was established that soon spread beyond the high schools into the primary and preschools, as well. Much was left to the local school districts, but the infrastructure created the ability to both standardize and customize learning materials, to teach modern-day subjects and skills, and to share information and resources among classes and entire school districts. The cost of computerization has not come cheap: The state of Alaska today spends an average of $14,000 per year for a rural student, more than three times the average amount in the Lower 48. But if the costs have been high, the emerging success stories point to an even higher gain: Alaska Natives who will prosper in a cash economy and still retain their language, their culture, and their heritage.

PAUL SUGAR TEACHES A PRE-FIRST-GRADE CLASS in the Bush community of Bethel, population 4,500. Although Paul was raised in Detroit, he feels at home in Bethel; the local cable company broadcasts the Tigers baseball games and the Detroit evening news. Bethel has four miles of highway, and if you try to drive east to Anchorage from there your car will end up about 396 miles short, stuck in tundra. In the winter the Kuskokwim River freezes and becomes a state highway, but unfortunately it goes north, in the wrong direction.

Most of Paul's students are Yupik Eskimos. He likes to get them working with computers even before they can read — computers not only help the children learn to read, but they can also help prepare them for the world of automatic teller machines, desktop publishing, and on-line data bases. His school uses the IBM *Writing to Read* program, and Paul especially likes the graphics and sound that are an integral part of the system. "You wouldn't believe the things this program can do," he says. "A child tells a story about a butterfly and the computer recites it back to her." The impression left on the child is a powerful one.

Paul uses a Macintosh computer to get children interested in storytelling. He takes a student's drawing and puts it onto the computer screen with an Apple scanner, then asks the child to tell him about the picture. Later, he animates the picture with *Hyper-Card* and types the story alongside it. When one student learned to read her own story, she went home that night and told her mother about it, over and over. The woman, unable to understand what her daughter was talking about, called Paul and asked for a demonstration. She went to the school to see the mystery for herself, then watched as her daughter read a story about a girl who raced across the screen and had many adventures. Paul smiles at the memory. "You could see the tears in the mother's eyes," he says. "That's when I knew it was worthwhile."

SHIRLEY WASULI IS A YUPIK ESKIMO from the village of Kotlik, an isolated Bush village in southwestern Alaska. As a high school student, she liked computers, but was upset that no programs used her language or culture. At the urging of her computer teacher, Shirley spent a year teaching herself *HyperCard* and used applications such as *MacRecorder* to put sound into her program and *SuperPaint* to create pictures of her village and a map of the region. She devoped her own program that taught the pronunciation of the Yupik alphabet, the Yupik days of the week, and

the months of the year. Her teacher encouraged her work and caught Shirley's enthusiasm; he taught himself how to use *HyperCard* so he could help with the project.

When Shirley finished the program, she presented it to an audience of Yupik elders at a regional school-board meeting. There, sitting in amazement in a quiet room, the elders saw two cultures coming together on the screen of a computer. Accomplishing far more than she may have realized, Shirley was asked to run through the program a second time.

AT THE KUSKOKWIM campus of the University of Alaska Fairbanks, a team of developers has created a videodisc based on artifacts in the Bethel Eskimo Museum. The videodisc includes demonstrations of Eskimo dancing and traditional skills such as mask making, skin sewing, and sled building. "We wanted to create interactive programs for different grade levels that would show students their culture," explains Dennis Schall, one of the developers. "We wanted a Yupik Eskimo computer."

Dr. Schall hopes to one day incorporate the museum disk with a science-instruction videodisc he has produced, a program that uses cultural context to help explain the science. Dr. Schall created the program in three different formats — using *Hypertext* for Macintosh, Apple II, and MSDOS — so all rural villages could use it. He distributes the program free to Alaskan schools and encourages students and teachers to share information between villages.

Teachers in the Yupiit school district called on a different type of customizing to meet the same need. The standard readers there had been so ineffective that the district hired a consulting firm to develop a reading series based on Yupik culture and the state of Alaska. The series is dedicated "To our Yupik elders and a way of life that has spanned 10,000 years." Some of the chapter titles in the seventh-grade book include "Yupik Celebrations," "Flying in Alaska," and "How to Read Freshwater Ice." A chapter on "Volcanoes" is followed by a story about the recent eruption of Alaska's Mt. Redoubt and its effect on one village in the region.

BARROW, AMERICA'S NORTHERNMOST community, is the Kuwait of the North. The rest of the state looks with envy at the revenues the North Slope School District receives from the nearby Prudhoe Bay oil field. The village high school has its own local television station and each of the six outlying villages in the region is networked through computers and other devices such as electronic blackboards and fax machines.

Irene Murphy teaches advanced math classes with an electronic blackboard from Barrow to students in other North Slope villages. The blackboard looks conventional, but is connected to a telephone line, making it possible for her writing to appear on blackboards at different sites. Because any village school will have only one or two students ready for an advanced course, the advantage of using the technology is worth the

> "We wanted to create interactive programs for different grade levels that would show students their culture," explains Dr. Schall. "We wanted a Yupik Eskimo computer."

cost. How successful is her class? "Most of the students do very well," she says. "One student liked it so much, in fact, that she's now at Dartmouth, studying to become a mathematician."

While teachers in Barrow are using technology to reach isolated students for special classes, the faculty and staff of Mt. Edgecumbe High School in Sitka are using technology to restructure the educational system itself. The state-supported boarding school has an enrollment of over 90 percent Alaska Native students.

The science lab is typical of the Mt. Edgecumbe way of doing things. Students use multimedia programs such as *Powerpoint* and *The Director* to report on scientific concepts. The lab also has an IBM system with programs designed for physical science, and temperature and humidity probes that are used in science experiments. "Everything we do is activity based,"

Paul Sugar blends cultures as he looks over the work of his Native students.

explains David Langman, the school's computer teacher. "We don't believe in simulations." The school has an active partnership with several businesses that encourages students to use the community as their classroom. Students in the biology class, for example, have gone as far as purchasing wet suits at garage sales so they can dive at local hatcheries to observe salmon behavior at close range. They'll combine their on-site findings with computer models to design hatcheries for their own villages. One faculty person observes, "If you don't use technology well, you get a not-so-efficient babysitter. But the standard school structure breaks down if you use technology correctly — it has to."

IN THESE AND OTHER STORIES across the Alaska Bush, it is clear that necessity has given birth to a new kind of invention, the kind that incorporates foreign, modern technologies into a broader context of centuries-old culture. For Alaska Natives, the ultimate measure of their inventiveness will be the degree to which they can enjoy the full benefits of contemporary society, yet preserve their collective heritage, continue to live where they are, and control their own destinies. In schools like Mt. Edgecumbe, teachers like Paul Sugar, and students like Shirley Wasuli, there are glimpses of how the future may look — and of how positive a role technology will play. As one Eskimo teacher puts it, "If our students can't work with computers and use technology in their jobs, then they probably won't be able to subsist anymore. Hunting and fishing and berry picking are still important to us — they're our life — but using technology is a new kind of subsistence." ❂

Barry Sponder teaches at the University of Alaska Fairbanks, Kuskokwim campus. He has taught and written in the state for ten years.

Number Games

How can you expect to teach kids math if you can't even keep their attention? Try using Stone & Associates' **2nd Math**. Its graphic interface and sound capabilities make 2nd Math appear like a game, while teaching fractions, ratios, division multiplication and even basic algebra. Ages 7-16.

Stone & Associates ... NCP

3439 2nd Math *(5¼" & 3½" versions included)* .... **$27.**

Thief of Fate

The city of Skara Brae lies in ruins—someone or some thing has sealed the city's fate with a vast evil. Assemble a group of adventurers and gather words, spells, and other items to help in your battle against the Evil One. New auto-map feature, two new versions of spellcaster, 84 dungeon levels, and over 100 spells make this the richest adventure yet.
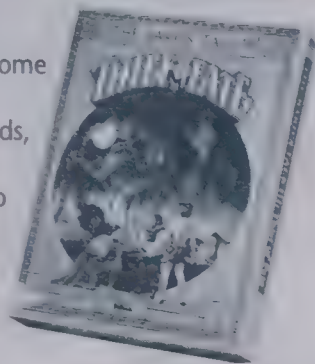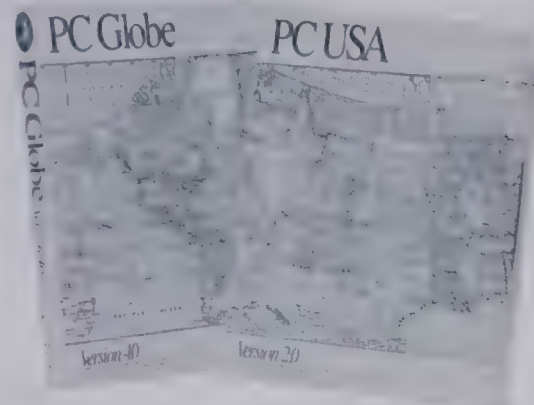
Electronic Arts ... NCP

8997 Bard's Tale III-The Thief of Fate *(5¼" version)* .... **$35.**
8988 Bard's Tale III-The Thief of Fate *(3½" version)* .... **35.**

Go Places

For business, travel or educational purposes, explore the United States with PC Globe's **PC USA**. Beautiful maps display detailed geographic and demographic information on every state. And PC USA's database contains information on major industry, politics, population, weather patterns, even point-to-point distances between any two cities. **PC Globe**, on the other hand, can expand your international horizons providing profiles of more than 175 countries with regard to currency exchange rates, history, tourist attractions, cultural information, and more.

PC Globe ... NCP

5900 PC USA *(5¼" version)* .... **$39.**
5901 PC USA *(3½" version)* .... **39.**
5902 PC Globe *(5¼" version)* .... **39.**
5903 PC Globe *(3½" version)* .... **39.**

Break The Bank

Want to perfect your gambling skills before that trip to Las Vegas? Centron's **Casino Master** can do just that. Learn from the master (your computer) without losing all your worldly possessions in the process. Includes Blackjack Ace, Poker, Baccarat, Craps, and Roulette.

Centron ... NCP

8672 Casino Master
(5¼" version) .... **$45.**
8671 Casino Master
(3½" version) .... **45.**
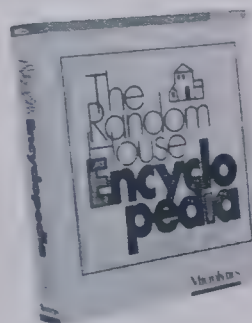
The World At Your Fingertips

How is it possible to have a set of encyclopedias residing in your PC? With Microlytics' **Random House Encyclopedia**, that's how. Each general category is broken down into subcategories containing over 20,000 entries. Scroll through the hierarchy using the Outline View, or use the Time Chart feature to view entries chronologically. Hard drive required.

Microlytics ... NCP

7931 Random House
Encyclopedia *(5¼" ver.)* **$68.**
8071 Random House
Encyclopedia *(3½" ver.)*   **68.**

We Have Ways Of Making You Talk

When studying any language, you'll inevitably need to learn its vocabulary. **Word Torture** from HyperGlot Software can help you do just that. Word Torture uses the flashcard system to test your knowledge of over 1500 words and phrases, then re-quizzes you on all incorrect answers. Available for French, German, Italian, and Spanish. Please see our line listing.

HyperGlot ... NCP

Word Torture *(5¼" and 3½" versions available)* .... **each $29.**
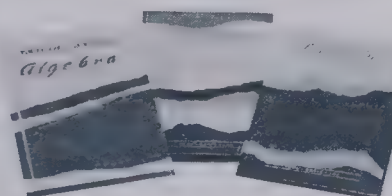
It All Adds Up

TrueBASIC's **Kemeny/Kurtz Math Series** of mathematics programs are designed to graphically illustrate and apply the principles of mathematics for class, home, or work. Topics available include algebra, pre-calculus, calculus, trigonometry, probability, statistics and more. Excellent for classroom demonstrations, or as supplements to high school or college courses. No special programming skills are required; use them as they come right from the package. You'll be at the head of the class.

TrueBASIC ... NCP

Kemeny/Kurtz Math Series *(see our line listing)*............ **each $45.**
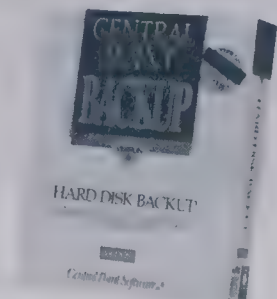
Save It!

Keep your hard drive files safe with regular use of Central Point's **Backup**. Backup transfers data at speeds of over 3 megabytes per minute, and will copy those files to floppies, Bernoullis, or even another hard drive. All backed up data is verified bit-for-bit, and can even be recovered if you backup to less than reliable media. And because Backup works in the background, it won't affect your productivity.

Central Point ... NCP
8114 Backup 6.0 *(5¼" &*
3½" versions included) . **$65.**

Word Power
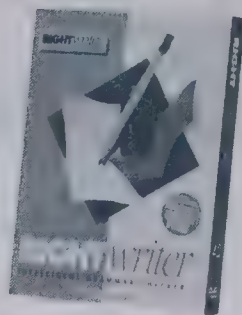
When making your mark in life, good writing is essential. It's more than dotting your i's and crossing your t's. RightSoft's **RightWriter** analyzes documents for errors in punctuation, grammar, style, and usage, and displays a marked-up copy of the original, singling out areas where improvement is needed. There's no better way to improve your writing. Find out how more powerful written communications can help you get ahead, no matter what you do.

RightSoft ... NCP
4155 RightWriter 4.0
(5¼" 3½" versions incl.) **$55.**

Booster Shot
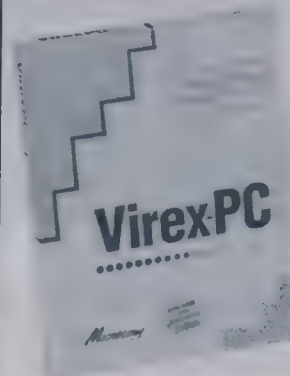
Protect your PC from those ever increasing computer viruses. Microcom's **Virex-PC** looks for viruses that might infect your system and wipes them out upon detection. It recognizes over 100 virus signatures and searches for them in files, directories, or on disks, and can repair even previously corrupted volumes. In addition, Microcom's quarterly updates keep you on top of the latest deadly disorders. Get Virex-PC and get well soon!

Microcom ... NCP
7649 Virex-PC 1.1 *(5¼" and 3½" versions included)* .... **$79.**

P.S.- Get GoScript

In the Dark Ages of PostScript (1988), a PostScript printer was necessary to print PostScript files. Then came LaserGo's **GoScript Plus**. It translates PostScript language files to a language many non-PostScript printers can understand. Now you can print those high-quality PostScript pages at the highest resolution your printer will permit. Also included are 35 typefaces that can be scaled to any size.

LaserGo ... NCP
7635 GoScript Plus 3.0 *(5¼" version)* .... **$189.**
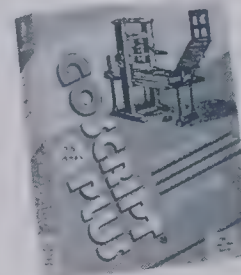7760 GoScript Plus 3.0 *(3½" version)* .... **189.**

Wait No More

Do you instinctively start twiddling your thumbs after hitting the PRINT command, knowing there's nothing else you can do while your printer does its thing? If so, you're a perfect candidate for **PrintCache** from LaserTools. PrintCache uses available system memory to store the data you send to the printer, allowing you to access your PC for more productive activities. Best of all, PrintCache is memory resident and works in the background so there's no extra commands or instructions to worry about. Just print and carry on. PrintCache is capable of creating any size buffer, limited only by the amount of unused memory. It uses conventional, extended, or expanded memory; and for those prodigious print-outs, PrintCache uses memory on-disk. Multiple buffers can also be created if you have more than one printer attached to your PC.
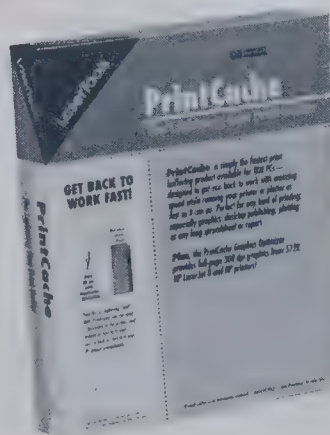
PrintCache works superbly with daisywheel, dot-matrix, inkjet, laser printers, even plotters. And with optimized drivers, PrintCache is the fastest print buffering product available. Maybe that's why *PC Magazine* (1/15/91) named it one of the "Best Software Programs of 1990." Get LaserTools' PrintCache and twiddle your digits no more.

LaserTools ... NCP
6882 PrintCache 2.3 *(5¼" and 3½" versions included)* .... **$99.**

Thanks For The Memory

If you have a 386 computer, chances are it came with more extended memory than you know what to do with. You've probably loaded all kinds of memory-resident programs that let you do everything from balancing the checkbook to watching exploding fireworks displays. It's also a good bet that all that extra memory is just sitting there and those TSR's don't allow enough room for you to do much of anything else. Now, however, there's **386MAX** 5.1 from Qualitas. 386MAX allows you to transform extended memory into much more usable expanded memory for applications that support EMS. It also moves your memory resident programs, network shells, and device drivers into high memory, freeing up that vital 0-640K area. With 386MAX, Windows "shines" because conventional memory is maximized. IBM PS/2 386 machines can benefit as well with Qualitas' **BlueMAX**. BlueMAX is designed to compress parts of the IBM BIOS that aren't used for DOS programs. The net result is a 65% yield of high DOS memory, leaving you with more DOS space in your PC than any other 386 on the block!
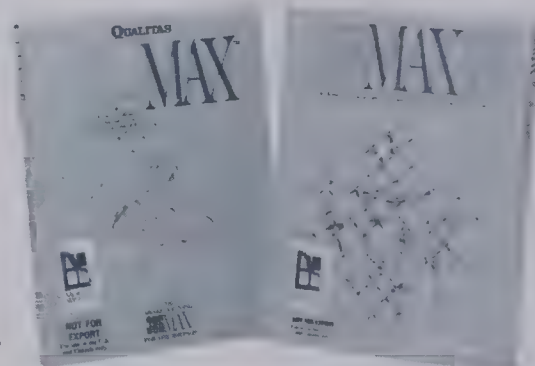
Qualitas ... NCP
7539 386MAX 5.1 *(5¼")* **$75.**   7538 386MAX 5.1 *(3½")* **$75.**
7967 BlueMAX 5.1 for PS/2 *(3½" version only)* .... **85.**

ON THE LOOSE

A high-tech nomadic bicyclist takes to the open road and redefines the concept of freedom.

by Steven K. Roberts and BEHEMOTH
Nomadic Research Labs

'M SURE YOU KNOW the fantasy: "Wow, the new Bifurcated Compuframus XL-9! If I get one of those, I'll have the power to be my best, the freedom to express myself, space for all my data, and total security... and leave my competition in the dust! Where do I *sign*?" So naturally you buy it. There's a surge of excitement while the learning curve is fresh, then life goes on as before — your tools have improved dramatically once again, but your life hasn't changed at all.

Do you ever wonder when this technology will live up to its promises and really set you free?

The funny thing is... we deal more and more in information. Writers, researchers, teachers, programmers, stackware authors, video producers, musicians, CAD system pilots, attorneys, accountants, and most engineers — all generate products that have no mass. Yet most are still chained to their desks, surrounded by high-tech tools, whittling away at the perpetual IN-DEEPER basket while dreaming of a cabin in the Canadian woods or gunkholing around the world in a sleek little 36-foot yacht.

There's something dreadfully wrong here. Life, someone once pointed out, is a crystallization of our dreams. If we dream of freedom so much, why don't we have it? Are we supposed to wait patiently for retirement, contenting ourselves with a few frustrating vacations in the meantime?

This was a question much on my mind eight years ago, when I was slaving over tasks I once enjoyed, trying to pay for something I once wanted. Specifically: writing and consulting to make the mortgage payments on a three-bedroom ranch home in Midwest suburbia. But somewhere along the way my cherished computer had become a boring business tool, the house a cluttered liability, the picturesque acre an endless nuisance, my once-passionate words merely a product. Eventually it occurred to me that working nonstop to pay for something I didn't want was, to put it gently, stupid.

But what *did* I want? I sat down and listed my passions: writing, adventure, computer design, ham radio, bicycling, travel, music, on-line networking, alternative energy, and play. All were present in my life to some extent, but somehow, the fun was gone. The problem was a lack of freedom, and the solution was obvious.

All I had to do was trash my life-style, get rid of the house, equip a solar recumbent bicycle with ham radio and computer gear, establish a virtual home in the online networks, then travel full-time while writing and consulting for a living.

SIXTEEN THOUSAND PEDALING miles have passed since then, and I am now hunkered down in a Silicon Valley lab building BEHEMOTH — my third bicycle system for high-tech nomadness. I am slowly reaching escape velocity once again, this time with open-ended international travel the objective. What began as a fancy getaway has evolved into something quite deliciously mad.

But first, a brief history. The original machine, the *Winnebiko*, evokes a nostalgic image of simplicity: a small solar panel, battery, security system, CB radio, and a laptop in the packs. Sleek, fast, and efficient. I covered 10,000 miles solo, Ohio to the East Coast, down to decadent Key West, across the country through Texas, throughout the western slopes of Colorado, down to southern California via COMDEX, and up the Pacific Coast to the Bay Area. Romance, adventure, wild craziness... it all yielded a book called *Computing Across America*, a virtual flood of magazine and online columns, and an endless succession of entertaining on-the-road contacts.

All I had to do was trash my life-style...

One big problem, though: I couldn't write, or do much of anything else, while riding. Every 10,000 miles takes about 1,000 hours of pedaling time, and that's half a business year. I'm a struggling free-lance writer, not a rich American traveling the world. It was fun, but from a steely-eyed business perspective, the numbers were disastrous.

The *Winnebiko II* changed all that. With a binary keyboard built into the handlebars and a control console in front of me, I could type at about 35 wpm while cruising along — using a hacked Model 100 with Traveling Software's Booster Pak as the mobile computing environment, along with a bulletproof HP Portable PLUS laptop nestled in my packs for off-bike work. A third microprocessor handled basic control tasks and keyboard decoding, while another took care of E-mail via the amateur packet radio network. I went from 5 to 20 watts of solar panels, upgraded from 18 to 54 speeds, added a cellular phone and 2-meter ham radio, and hung a trailer off the back to increase load-carrying capacity. (At its peak, this system reached 275 pounds.)

And there were other changes as well — while the book was populated with an intoxicating succession of on-the-road romances, I was beginning to sense the need for something other than exuberant beginnings and bittersweet endings. A few months before launch, Maggie Victor entered the picture, responding to my innocent invitation to "go for a bike ride" by trashing her own life-style and moving to a second recumbent. With GEnie as our electronic hometown, we hit the

road together in '86 — covering 6,000 miles in a shared adventure along both coasts.

Technology waits for no one, however, especially people ambling the back roads. By 1989 it became obvious that the *Winnebiko II* was obsolete and that no amount of upgrading could overcome fundamental architectural inflexibility. It was now time to do it right.

ENTER BEHEMOTH (Big Electronic Human-Energized Machine... Only Too Heavy).

I suppose the first issue, before establishing a basic design specification, is why. Has high-tech nomadness become an addiction, the habitual peregrinations of an aging yuppie hobo? What else but addiction could motivate me to concentrate all available resources into a 350-pound million-dollar machine, just to expose not only it but my own fragile body to the violent drunken terrors of the highway?

I have a whole armamentarium of carefully formulated reasons, but I'll spare you. Just this: the bottom line is fun, and I mean that very seriously. (Success, after all, is the ratio of all you put out to all you get back. Who says it has to be measured in dollars?) And if the whole thing still seems like the obsessive hacking of a tripped-out West-Coast silicon junkie who never quite escaped the 'sixties, imagine yourself in this scenario:

HOT SWEAT, STEAMING INSIDE layers of polypropylene. The road, winding and narrow, a relentless 9% grade into the clouds. An occasional logging truck, splashing past with a roar and the smell of chopped fir. Sounds: rain ticking ripstop, your own rhythmic panting, the soft clatter of chain and derailleur, an occasional muted birdsong, Maggie's voice breathless in your ear via 2-meter ham radio, the soft whir of a pump pushing coolant through the helmet heat exchanger, the bike's speech synthesizer piping up to announce system events or incoming calls. The heads-up display shows a shimmering red scrolling map of Shasta County, your own location a centered blinking arrow derived from the GPS Satnav system, tonight's campsite a slowly nearing tent icon. You zoom out, and 32 miles ahead is a house; you double-click it with the thumb mouse and a window opens, showing the data base record of an online friend you've never met. Too far... maybe tomorrow night.

The console in front of you carries both Mac and DOS environments. The main display is a *HyperCard* graphic-user interface to the embedded control systems, and you see at a glance that the battery is at 68% with 23.4 hours to discharge predicted at present sliding-average rate... no solar power today. You touch a thumb button to engage the head mouse, and with a subtle nod click on the ham radio icon. A virtual front panel pops up, looking remarkably like the Icom HF transceiver back in the trailer — with a click of another button it comes to life, while below your awareness a trio of FORTH processors in the bike's major nodes set bits in their audio crosspoint switch matrices to establish a bidirectional audio link between radio and helmet. Your Ohio friend is still chatting away on 20 meters... you break in at a polite moment and let him know you'll be on from the campground after dinner,

and will he have time to check some documentation for you? There's a data book you never got around to adding to the bike's microfiche library, and as Murphy would have it, that's the one you need.

That issue shelved, you open a text window and add a few thoughts to your article about this remarkable mountain range, typing flutelike on the binary handlebar keyboard with barely perceptible movements of your fingertips. You are actually keying in macros, which are interpreted by PRD+ running in the background on the T1000 that occupies the lower third of the console. "otr" you key, and "on the road" appears on the screen; continuing in this fashion, you appear to the system as a 100+ word-per-minute typist, blazing away through a FORTH-controlled matrix that masquerades as a standard Macintosh keyboard.

A synthesized voice in your ear: "Microsat pass complete; you have mail." Speaking distinctly, you say "Read it" into the microphone; the Covox interprets the command and the Audapter immediately reads you a friendly note from a woman in Australia, ported from Internet via a SparcStation in Silicon Valley.

Another logging truck, too close! You touch a red thumb button and the air horns blast — the driver swerves and toots back. Grrr.

The road levels, the rain finally stops, and it's a downhill coast all the way to camp. Occasionally you squeeze the brakes, but never quite enough to engage the hydraulics — the bicycle control processor senses the pressure rise in the system and directs the regenerative braking controller to draw a proportional amount of power from the variable-reluctance front wheel hub. This satisfies your braking requests and dumps a couple hundred watts into the power bus. Today it recharges the batteries. On a sunny day, the excess power would be passed to the solid-state refrigerator that cools the thermal mass of drinking water, providing a heat sink for your helmet cooler. It feels good to conserve scarce resources.

An hour later you are camping, smells from the stove intoxicating, the sweet buzz of healthy tired muscles retreating in the glow of firelight, Grand

Marnier, and something smooth on the stereo. In its own tent the bike waits, security system alert and watching for movement. You can't relax yet, though — you have to consult an OrCAD file prior to the sked with the ham in Ohio. You climb into your tent, and under candlelight open an aluminum suitcase, flip up a small antenna, touch a key to awaken the laptop, and sign on to the bike via UHF business band packet datacomm. A few quick commands, and you hear the Ampro 286's hard drive quietly spin up off in the trees — then the file enters your local system RAMdisk in short 4800-baud bursts. While munching linguini with clam sauce, you peruse the schematic and make a few notes.

Once you get the pinout data from Ohio and finish the changes to the CAD file, it's time to ship it to your partner on the design project. The final version will go out machine readable direct to the printed-circuit fab house, of course, but this one is for comments. You extend the fiber glass BYP (big yellow pole) mounted on the back of the trailer, aim a six-element 900-MHz yagi antenna in the general direction of Redding, and via the laptop RF link direct the system to check for clear cellular phone service. That established, you pass a print capture of the schematic file to the fax software and let the bike handle the details of sending it to a fax machine in Boston.

While the cellular antenna is set up, you sign on to GEnie to upload a long-overdue column and get the mail, then kick back with another little nip of Grand Marnier for a relaxed evening of staring into the fire and chatting with your sweetie. Ah, the outdoor life…

ARE YOU STILL WONDERING why I do this? That scenario is completely realistic and reflects a fair percentage of the technology that is currently being integrated into the system. The fundamental design specification for BEHEMOTH is to

provide maximum autonomy in power generation, computing resources, communications links, life support, and maintainability — no matter where in the world it happens to be.

So what's the point?

BEHEMOTH erases all boundaries between work and play. It eliminates geographical location as a factor in maintaining effective relationships. It embodies a suite of technologies that collectively offer dizzying freedom. And, as I said earlier, it's fun.

But perhaps most provocative is what the bike's technologies imply for future life-styles in general. If it's not obvious already, I am basically just BEHEMOTH's project manager — most of the wizardry has emerged from the labs of the more than 150 companies that have made this system possible, and it's on the market now. The Mac Portable, Ampro single-board industrial DOS systems, New Micros low-power FORTH boards, the Private Eye display, Etak maps on CDROM, Solarex solar panels, efficient networks, cellular modems, improved battery chemistry, tiny RF data links…the list goes on and on. If any grandiose purpose can be claimed for the bike, it is the public integration of widely diverse technologies that usually appear in vertical target markets.

What do these technologies imply? *Freedom from traditional limits.* Now in the marketplace are products that allow a radical change in the way we live. It no longer matters where you are, and information (the essence of most business) weighs nothing and moves at the speed of light.

Perhaps those desk-bound dreams of escape aren't so remote after all… ∞

The ongoing narrative of this project, including articles, photos, and stories from the road, comprises the quarterly journal Nomadness. *Subscriptions are $15 for 6 issues (or $21 for first-class mail). A 16-page prospectus describing* BEHEMOTH *more fully is $2;* Computing Across America, *dated-but-spicy, is $11.95 postpaid. All this from: Nomadic Research Labs, P.O. Box 2185, El Segundo, CA 90245*

Code Name: Picasso

IT WAS EARLY '86, the New Year, and it was all very hush-hush in Palo Alto. At Adobe, none of the suits was talking. You'd hear a door shut before you knew it had opened, and the hallways were crowded with silence — the kind of silence that screamed of shopping and the Giants and ain't-this-picture-of-my-niece-cute and not one precious thing that was on people's minds. It was big, they could tell that, and it was called Picasso. But try to find any more dope on Picasso… you'd have better luck trying to make a dead painter sing.

Warnock was the man behind the closed door, the visionary, and with him was a brilliant young programmer named Mike Schuster. Together for four months, they tried hopping a train that was just pulling away from the desktop, and they tried to steer it onto tracks they were building in front of it. There wasn't much time. Apple's LaserWriter had already shipped, and the only missing link between that and the Home Publishing Revolution was a program that could draw. They needed something to drive the PostScript from the front end, and Warnock was used to driving.

Inside, the word got out in snatches. The two were secretly prototyping a graphics program like the world had never seen — but what did it look like? What could it do? The answer bloomed in spring when Warnock and Schuster — using the image of a rose — uncovered their tracks and unveiled something bigger than anyone else had thought possible. There was the template, and the pen tool, and the ability to trace, and scale, and mirror, and skew. The rose had no thorns. Illustrator shipped on Friday the 13th of March the following year, straight into the guts of the Revolution.

Adobe *Illustrator Windows 1.0*
Adobe Sytems, Incorporated, 1585 Charleston Road, Mountain View, CA 94039; (800) 83-FONTS, (415) 961-4400
Description: *A DOS-based graphics and drawing program that creates images in black and white in up to 400 shades of gray.*
Requires: *286 or greater; 1 megabyte of RAM.*
Reviews: *PC World (7/89); Publish! (7/89)*

And They Lived Happily Ever After

THE SUCCESS STORY is classic in its proportions. She is a teacher, he is a programmer-scientist specializing in physics. She meets him. They marry. They have a house, they have incomes, they do taxes. He grows tired of doing taxes by hand. He looks for something to make it easier, he can't find the software, he writes it himself. She grows tired of education, she looks at him, she says, "Why not?" They leave their careers and start their own. They work hard. They work at home. Business grows, their inventory grows, they have to turn sideways to move down the hallway to the bathroom. They move into a real building. They work hard. Eventually, over six years, they hire 175 people, create 140 tax-related programs, gain a three-to-one advantage over their clos-

· PHOTOGRAPH BY CRAIG MACCORMACK ·

est competitor, and hold 60% of the personal-tax software market. He looks at her and says, "Why not, indeed?"

TurboTax 8.0 *ChipSoft, 6330 Nancy Ridge Road, Suite 103, San Diego, CA 92121-2246; (619) 453-8722*
Description: *Federal personal income tax program. Now offers mouse support, on screen Post-Its, and pull-down menus.*
Requirements: *IBM PC, XT, AT, PS/2, or compatible; 512K memory to run program with DOS 2.0 or greater.*
Reviews: *New York Times (1/13/90); Los Angeles Times (3/6/90); U.S. News & World Report (3/12/90); Business Week (3/19/90); Better Homes & Gardens (5/90); PC World (10/90).*

ChipSoft founders Mike & Evie Chipman: Young, in love, and their taxes are done.

The Way You Fax Is The Way You Print

S O THEN THERE WAS the guy in Scottsdale, Arizona, who was putting out a newsletter from his home to about 300 subscribers around the world. He'd laser-print the copy, then have some administrative help stand in front of a fax machine for several hours and send the newsletter to 300 different fax numbers. After a while he figured out that he could save some money on his phone bill if he had his administrative help get up and do that at 2:00 A.M., so that's what he did.

"Now, I hate to get emotional about this," Dave Taylor said to us — he's the product manager for Satisfaxtion, a built-in fax-modem board that works in background — "but that guy's exactly what we're talking about. He bought one of our boards, and now he sends out his faxes automatically from his computer. He can keep working while the faxes are being sent, and he doesn't take up the time of all those other people. In fact, he doesn't even have to *print out the newsletter anymore!*"

Dave *was* getting a little emotional, as product managers tend to get about their products ("This is newborn baby number five for me at Intel…"said Dave), but in this case we understood.

The group he's been heading up there is passionate about the mission of its new board: to make the existing technology for communication so simple and accessible that everyone who has a computer and a phone can take advantage of it. "Sending and receiving messages from your computer should be just like using a telephone," Dave explains. "There when you need it, unnoticed when you don't, and always in the background." So that's what his group has done. The key to making the technology accessible was based on the self-proclaimed concept of WYFIWYP ("whiffy-whip"), or the Way You FAX Is the Way You Print, the idea being that if faxing was as easy as printing, no one would be intimidated by the procedure. The other key was putting it in background. (Think of the guy from Scottsdale. All he has to do now is direct the fax command to a data base of 300 phone numbers, set it for 2:00 A.M., and go to bed…)

We could get emotional ourselves.

Satisfaxtion P.C.E.O. *(a division of Intel), Cornell Oaks 3, 15220 Northwest Green Brier Parkway, Beaverton, OR 97006-5762; (503) 629-7402, (503) 629-7227 FAX*
Description: *A fax board with built-in MNP level 5, 2400 bps modem.*
Requires: *IBM PC or AT or compatible.*
Reviews: *PC Computing (12/90); PC Magazine (12/11/90).*

The Father of Shareware

J IM BUTTON LIKED HIS CHURCH. He also liked to help people, and knew more than a thing or two about programming computers. So when he found out the good people at his church were in need of a good data-base program for their computer, he wrote them one, and they liked it. In fact, Jim liked it, too, so much so that he started giving copies of it to his friends. And they liked it, and they started asking for copies for their friends, and pretty soon Jim noticed all those disks and postage stamps were running him into some real money. So he decided to print a little message that would appear on the screen when his program was called up (this was revolutionary): Send me a $5 contribution, the message said, to help defray the costs in sharing this software. About the same time, down the coast in California, a man named Andrew Fluegelman was coming up with the same kind of idea for a program he

called *PC Talk*. Andrew got in touch with Jim, they talked, and the two of them realized they were on to something big. Pretty soon they were using the term "freeware" to describe what they were doing, and the word was getting out. Jim started asking for contributions of $10 to cover his costs, then $25. Of course, people didn't have to pay if they didn't want to, but most paid. They liked the spirit of it, they liked being part of a system opposed to the proprietary, secretive industry the software business had become. They especially liked contributing to someone who not only offered his program for free, but (this was *really* revolutionary) encouraged users to copy the program and share it with whomever they liked.

As it happened, *PC Magazine* caught wind of all this around 1983 and ran a major story on it while Jim was vacationing with his family in Hawaii. When he returned home to Washington after the trip, he returned to thousands of responses to the magazine article — enough grocery sacks of mail to cover his entire basement, all filled with $25 checks. "That's when we put the family to work," Jim recalls. Not long after, Jim decided to put all his energies into his hobby and left a job at IBM that was earning him $50,000 a year. The hobby — strictly from voluntary contributions — was bringing in eight times that.

Well, history is history, and today Jim Button is president of ButtonWare, 35 employees and all. Their big seller is still *PC-File,* a version of Jim's original program, and they're still in the business of sharing software. The sharing today, though, is used primarily as advertising — to get copies of the program in as many hands as possible. The message that comes up on the screen now encourages people to buy the program and become registered users, with all the documentation and support that implies. The church, we understand, still gets theirs for free.

PC-File 5.0 *ButtonWare, Inc. P.O. Box 96508 Bellevue, WA 98009; (206) 454-0479, (206) 454-1838 fax*
Description: *Full-function, flat-file data base. Graphics card required to use charting feature.*
Requires: *IBM PC, PS/2, or compatible; 512K RAM; DOS 2.0 or later; and two 720K floppies or a hard disk.*
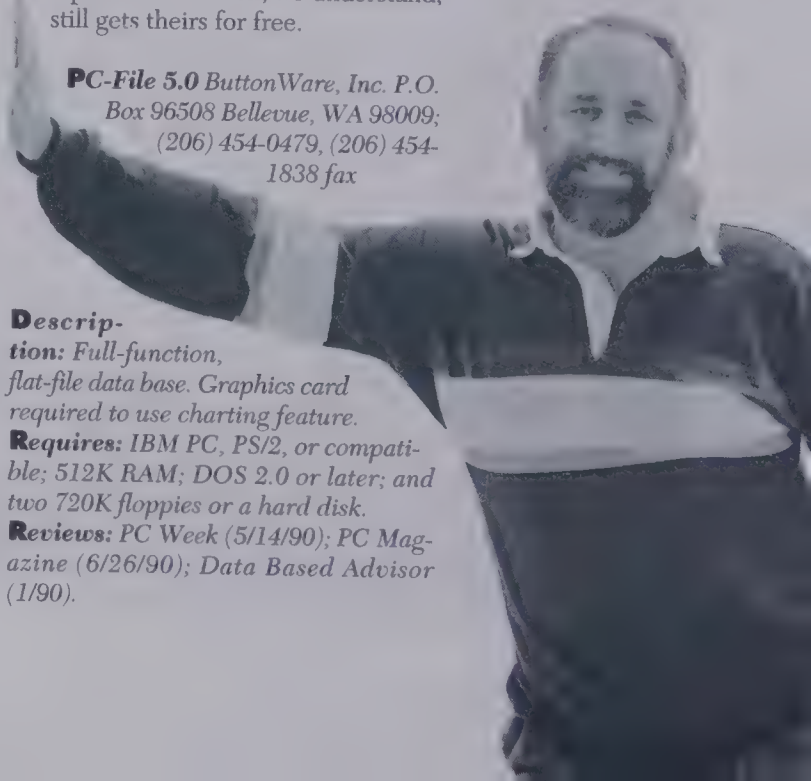**Reviews:** *PC Week (5/14/90); PC Magazine (6/26/90); Data Based Advisor (1/90).*

Time Bandits

IT COULD, IN THE END, be blamed on the IRS Six years ago Mitch Russo finally broke down and bought a PC to do some of his work at home. When tax time came around, though, he was angry to learn that the Internal Revenue wouldn't accept his deduction of the PC without simultaneously kept records of his time spent working on it. He grew more angry when he had trouble finding a good program that would track his time on the computer as he used it. So he went to see his neighbor, Neil Ayer, a fellow Harley biker, a pretty good guitar player, and a programmer, and together they came up with a program that would track time just as the IRS wanted it. And the potential, they thought — just think of how many people they could sell this to!

And then the IRS changed the rules and dropped the deduction requirement.

Furious now, Mitch simply said, *Fine*, and decided if he couldn't use

Mitch Russo of Timeslips, along with two of his passions.

the IRS to pay for his time, well, he'd make his time pay for itself. He and Neil altered the program and added features, attaching billing rates to the time tracking, effectively creating an automatic billing system. They set up a workshop in the small playroom above Mitch's garage, where they did programming, testing, shipping, and receiving. (The stucco ceiling there was so low that people who came to visit often hit their heads on it, requiring Mitch and Neil to provide motorcycle helmets for protection.) They wrote their ads, in those heady days, over beers and burritos at a local Mexican restaurant and cooled off each evening with long bike rides up to Newburyport and the New Hampshire coastline, before heading back to Mitch's playroom to work late into the night.

Their instincts (and idea) paid off. Business grew, employees were added, more phone lines were needed. (The FBI came once to investigate, suspecting a bookie operation. "Look," said the telephone lineman, "we've never brought five lines into a residential house before…") On the day the space shuttle *Challenger* crashed in 1986, a review came out in *InfoWorld* that opened the gates for a flood of orders

for Mitch and Neil's program. The company moved three miles away to larger quarters, outgrew that in six months, and moved again. They've expanded twice in their present building, twice annexing the personal space of the building's owner. The flood of orders continues, more or less steadily, to this day.

Mitch Russo, now the president of Timeslips, has sold his Harley, a 1984 1,340-cc. soft-tail, but he and Neil Ayer still get together to play guitar. There's a drummer in the company (Ross Jacobs), and they've talked about putting a band together, blues, mostly, maybe some R & B. The company has done even better than Mitch and Neil could have hoped, it's picked up some awards, continues to grow, and has made the IRS very happy. "What we're really looking for," says Neil, the vice president of Timeslips, "is a bass player."

Timeslips III 4.0 *Timeslips Corporation, 239 Western Avenue, Essex, MA 01929; (508) 768-6100, (508) 768-7660 fax*
Description: *A comprehensive time and billing management program.*
Requires: *IBM XT, AT, PS/2, and compatible, requires 384 K RAM, DOS 2.1 or higher (3.1 or higher for network edition), and a hard disk.*
Reviews: *Computer Shopper (2/91); National Law Journal (5/90).*

Bob and Mary, At Home

BOB HAD THE BACK bedroom," Mary Stanley told us, remembering the early days of their memory-management software company. "I had the living room. I'm friendlier than he is, plus I refused to work in the basement." She was a Kansan come East to the Chesapeake, he a Vermonter come South, and they found themselves living in a wonderful, Depression-era stone house that had suddenly grown out of control. "The kitchen wasn't mine anymore," Mary continued. "Three of us shared an office and one phone upstairs. The fax machine was in the living room, the Xerox machine was on the antique Stickley sideboard,* we shipped products from the dining room table, and UPS picked up at the front door."

Mary Stanley and Bob Smith enjoy a little privacy in front of their home.

A CPA visited once and said, "This is the only time I've ever found clients who were actually using their *entire* house for business." Neighbors kept track of the parked cars that stretched up and down Thoreau Drive and speculated on the success of the business by the years and models its employees drove. By April 1989 there were 18 people working in the house.

"You do what you have to do," Mary explained, "but that was the limit." Their company has doubled in size since it moved out that April, and has since opened an international headquarters in Brussels, Belgium. "We were an overnight success after seven years," said Mary. "And you know what? Our house is becoming a home again."

386MAX 5.0 *Qualitas, 7101 Wisconsin Avenue, Suite 1386, Bethesda, MD 20814; (301) 907-6700, (301) 907-0905 fax*
Description: *A high-performance, memory-management software utility. Occupies only 80 bytes of lower DOS and 1 to 3 K of high DOS.*
Requirements: *386FX (or higher) IBM or compatible.*
Reviews: *PC Week (7/16/90); PC Week (8/27/90); PC Week (9/10/90).*

Seeing the Future

BECAUSE HE WASN'T *a display engineer, he tried something that everyone knew was impossible; he didn't know it couldn't work. Well, lo and behold, he tried it, and it worked, and he didn't know exactly why. He had to hire a couple of engineers and scientists to figure out how he'd done it, so he could sell it.*

— Steve Lipsey, vice-president

It was 1986, and Al Becker, the inventor, found himself between opportunities. As entrepreneurs go, he was on a roll — a roll that had begun back in the 'sixties when he left MIT as an undergraduate to start his own software company, then sold it, then co-founded and sold Kurzweil Computer Products, and then, more recently, created and sold a work station enterprise called Cadmus Systems. Now he was back at MIT — in its library — taking three months to figure out a way to bring together the two directions he saw society taking: information and mobility.

There was already enough information out there, he reasoned. What he wanted to do was give people the ability to access that information no matter where they happened to be. What bothered him most was the problem of monitors and screen display. The conventional wisdom was that you needed all kinds of external components for screens to be readable — making the units bulky and hard to transport. How could they be made small enough to be mobile, to be carried any time, any place? "Everyone was working on tiny LCDs and magnifying them," Al recalls, "and not having much luck. I wasn't a display engineer — and so had no idea of optical parameters — but I came up with this crazy idea of using a vibrating mirror and a single row of LEDs."

A single column of the image, Al thought, could be repeatedly magnified and displayed across the virtual screen — at such a high speed that the viewer would, in effect, be looking at all of those vertical images at one time, and thus see the complete "screen," all 256 columns of it. Al hired a display guy and an electronics guy to work on the project during nights and weekends, and then went after the funding. By August of '87, money was raised and a prototype developed — the idea had worked after all — and the Private Eye was born.

Three years later, after refinements have been made and design awards won, the product is on the open market. The selling point is a "floating" screen of vibrant red characters that appear on a black background. To the eye, that screen appears equivalent to a 12" monitor at a viewing distance of 24". Actually, though, it can be held in the palm of a hand. (The device is worn on a headset.) Most of the interest in the technology, so far, has come from industry: a pocket, paperless fax machine has been announced, for instance, using the Private Eye to display the messages. But other ideas are being worked on: hands-free manuals for technicians, message displays for phones and radio pagers, mobile displays for pocket computers and video games. And while there are

still refinements to be made before the general public will embrace the virtual screen (as one would expect with any first-version, cutting-edge product of this magnitude), several units have made their way out to general consumers. Who are they? Surgeons thinking about performing an operation while complex, technical instructions appear without a hindrance before their eyes? Drivers calling up maps in unfamiliar territory to view while driving? Newspaper reporters calling up wire service reports from on location? Mad nomadic bicyclists bent on carrying complete communications networks with them in mobile form? Said Steve Lipsey, the company's vice-president of marketing, "To be honest, we have no idea what people are using them for."

It may be, simply, that some people recognize the future when they see it.

PC Private Eye *Reflection Technology, 240 Bear Hill Road, Waltham, MA 0215; (617) 890-5905*
Description: *A miniature, virtual screen, full-size display.*
Requires: *IBM PC/XT/AT (8-bit or 16-bit slot). Will coexist with MDA, Hercules, EGA, or other CGA display.*
Reviews: *Games (1/90); Andrew Seybold's Outlook on Professional Computing (5/90); Radio Electronics (6/90); PC Hands On (7/90); PC Magazine (7/90); Law Enforcement Technology (8/90); Byte (8/90); Popular Mechanics (8/90).*

Inventor extraordinaire Al Becker puts his vision on display.
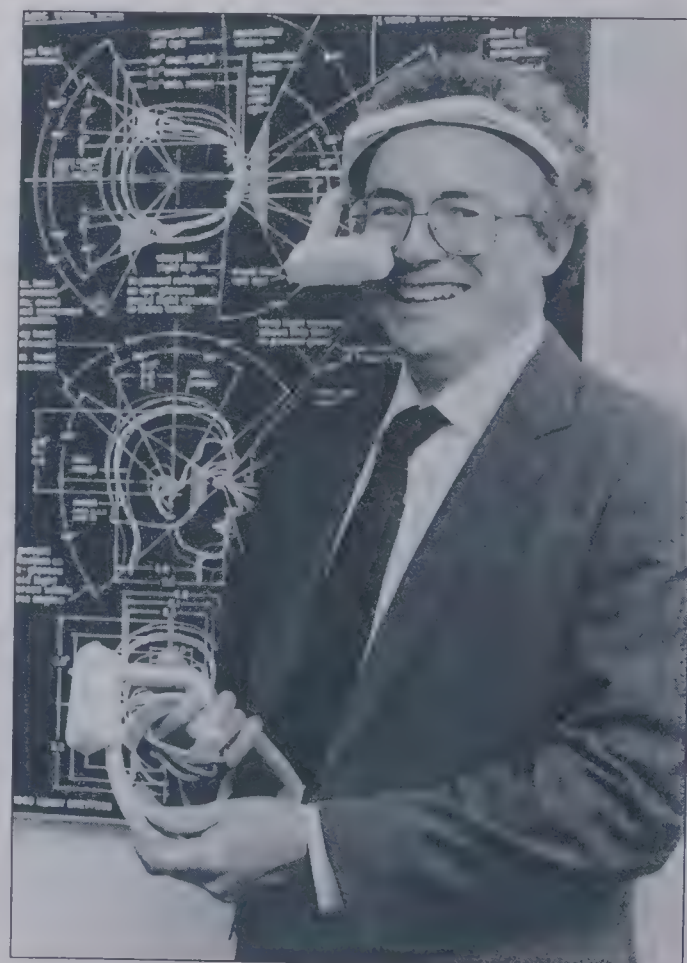
About Bookmarks

A *few years ago I discovered books from small presses, and since then they've taken me on a fascinating, kaleidoscopic roll through the deeps of the country.*

Every year almost 50,000 books are published in the United States. Many wonderful and important books printed in limited runs by small houses disappear a few months after publication. Passed over by critics, ignored by chain bookmarts, the lives of these books depend on inquisitive readers who ferret them out in independent bookstores. There are treasures here.

Small presses tend to specialize — regional writers or natural history, movies, hogs, bicycling, mysteries, feminism, poetry, Native American life. The books are often beautifully designed and illustrated. Some of the books we'll review are not common on bookstore shelves. We encourage readers to order books through their favorite bookstores, but sometimes the dark seas of book distribution that lie between the publisher and the reader are not navigable. Books may be ordered directly from publishers, and so we include their addresses.

"Bookmarks" will review the best of the small-press books that come our way, books from all over the country on back-road adventure, lonesomeness, regional history, ants and armadillos, growing and making things, work, neighbors, problems and love, and especially the books that give us views of the lives and ideas of country people.

-Annie Proulx

Writing as Flavorful as a Bowl of Red

Of Chiles, Cacti, and Fighting Cocks: Notes on the American West, by Frederick Turner. North Point Press. 850 Talbot Avenue, Berkeley, CA 94706. 1990. Cloth, 211 pp., $19.95 plus $1.50 postage and handling.

"**W**HERE I LIVE in New Mexico," writes Frederick Turner in this book of essays and reflections, "it is possible to sit in your pickup with your .30-.30 behind your head, watching a cowboy movie at a drive-in that is surrounded by high-rise tourist hotels and fast-food restaurants. No one around you seems concerned to sort out the realities in this extraordinary tableau. It is simply The Way Things Are…"

This is the New West. One of Frederick Turner's talents is to see the myriad strange ways that the West's history affects the present. He knows that it is not just the splendid land but also the sometimes difficult human beings who inhabit it that make the West unique. Brought up in Chicago, sent to school in New England, and now living in the very New West town of Santa Fe, Turner has written a lovingly accurate book, a corrective to both arrogant eastern provincialism and hidebound western chauvinism.

He takes on a bunch of off-trail subjects: the Bureau of Land Management's mismanagement of wild horses; the many versions of the life of Billy the Kid; saguaro cactus; Basque sheepherders; the Bohemian sausage festival— beseda— in Deming, New Mexico; cock-

fighting; the importance of chili; the books and lives of two quintessentially Western writers, Will James and James Willard Schultz; and finally, strangely, and appropriately, Vasco Nunez de Balboa, discoverer of the Pacific.
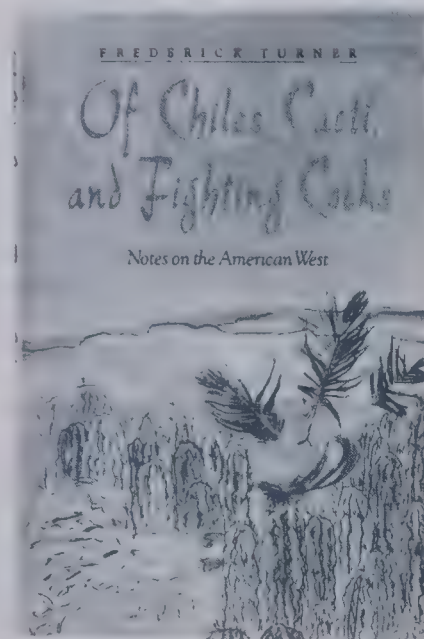
The wonderful thing about Turner's best essays is an air of assumed innocence that allows him to ask deadly questions and get away with it. He listens to a well-meaning BLM bureaucrat ramble on and on about the problems with the

well-meant but useless adoption program for wild horses, but finally interrupts him to suggest a conservationist friend's abrupt, profane, three-word solution. The bureaucrat "laughed shortly."

He uses the same technique exquisitely in the essay on cockfighting, "A Custom of the Country." One of the cockfighters leans at him: "You're a writer, are you? All we ever get from writers is misrepresentation, misquotes, misunderstanding, a whole lot of trouble…You come out here, and let me look you in the eye, and then maybe we'll talk." He does, they do, and the result is a sort of grudging, half-humorous respect on both sides. His host introduces him around. "This is Fred Turner. Fred doesn't know his ass from a green apple, but we're going to try to educate him a little." Turner, who neither condemns nor romanticizes the cockers, reports everything he sees and hears with candid accuracy. Even the slighter pieces — one on saguaro cactus, another on chiles — are good reading and the chili recipe (perhaps omitting the tomatoes) is authentic.

Turner is one of the few writers we have — the late Edward Abbey was another — who have sympathy for the environment and for the "leave-me-to-hell-alone" attitude of born Westerners.

His writing is as flavorful as a bowl of red. I hope he continues to ask his questions and write down the replies.

-Steve Bodio

Where Even the Sun and Moon Are Bewildered

A Journey to the Far Canine Range and the Unexplored Territory Beyond Terrier Pass, by Roy De Forest. Bedford Arts, Publishers, 250 Sutter Street, Suite 550, San Francisco, CA 94108-4482. 1988. Cloth, $29.95 plus $3 postage and handling.

THERE'S A MONSTER in my back room, behind the door. It's there, but only my friend, eight-year-old Emma, can see it in the way that children see and feel spirits, monsters, and animals in their true light. Roy De Forest is one of the rare adults who have retained that childhood gift.

This book of 12 folding panels without words is the San Francisco artist's account of a vacation deep into the Yosemite wilderness with his family and his pointed-eared, all-seeing dog. The original artwork, pastel and airbrush, was exhibited in galleries and on bus posters across the country.

De Forest's painted tale of the Journey to the Far Canine Range takes us through a weird world where no thing is more alive than any other thing and where dogs are kings because of their superior perceptions. This wonderful book is like a cave painting that can be folded up and put on the shelf.

The story unfolds like a dream, and the pages literally unfold like an accordian. As we travel along the panels, we meet the Old Sage, a large Bear Man with his black dog, an Indian wearing a leaf headdress and breathing blue hair. The sky is wild with electricity, conversations, and scribbles. There are staredowns between dogs with their X-ray vision; there is a devil who floats.

Next is a place of the dead with skeletons and fierce trees. Here even the Sun and Moon are bewildered. The all-seeing dog finds a sleeping horse dreaming of music. In the last panels of the first side, the family and dog pile into a canoe and paddle to a thinking match between Bear, Sage, and Man.

In the final panel we meet Enormous Bunny with her great oversized heart. Her big red heart is like the Holy Grail; she is smiling and seems to be the end and the answer of the journey, for then the Man becomes one with the

landscape, and there is peace.

"The Unexplored Land" is the land of the ancients that we know, but have — somehow — forgotten. Yet the spirits and monsters may not have forgotten us. Maybe they still believe in us. Maybe that is why De Forest's characters are so familiar, like people we might have met when very young or in a dream that we can't remember.

-Pace Hendequin

A Vituperous, Mudslinging Battle

The Nature Fakers, Wildlife, by Ralph H. Lutts. Science & Sentiment. Fulcrum Publishing Company, 350 Indiana Street, Suite 510, Golden, CO 80401. 1990. Cloth, 256 pp. Illustrated, annotated, bibliography, index. $22.95 plus $2 postage and handling.

AT THE TURN of the century when the buffalo and passenger pigeon neared extinction, an unprecedented burst of nature writing dominated American literature. The reading public couldn't get enough of the books and articles of John Burroughs, Ernest Thompson Seton, William J. Long, John Muir, Jack London, and the rough-rider president, Theodore Roosevelt.

Books on woodcraft, camping, wild animals, wilderness adventure poured from their pens. Some of the most popular wrote dramatic but "true" stories in which animals exhibited deep emotions as well as reasoning power. Vix, in Thompson Seton's "The Springfield Fox" brings her captured and chained-up cub poison bait rather than see him live "…a wretched prisoner's life." Another celebrated (eventually notorious) example was William J. Long's eye-witness account of a woodcock with a broken leg applying mud and grass to the limb to make a splint.

In 1903 John Burroughs wrote a stinging article for *The Atlantic Monthly* naming the shams, the nature fakers, who doctored fact for the sake of dramatic effect. Instinct — and nothing else — motivated animal behavior. The article created a sensation and touched off a vituperous, mudslinging literary battle that went on for years. Roosevelt was involved behind the scenes from the beginning. Finally, from the eminence of his presidential position, Roosevelt openly denounced Long in a devastating 1907 article titled "Nature Fakers."

Ralph H. Lutts, director of the Blue Hills Trailside Museum of the Massachusetts Audubon Society, untangles the bitter exchange in a solid and gripping history of nature writing in a crucial period. He gives us a powerful character study of the times and a handful of self-centered men — the coldly handsome clergyman, Long, who believed all animals died painlessly and, disappointed in the sex of his second child, a daughter, refused to look at the baby for two weeks; the bullying, loudmouthed Roosevelt; old Burroughs, the pawn in the game, his ideas fixed with the cement of age.

The controversy over animals' reasoning powers vs. instinct, their ability to feel, deceive, plot, and plan, did not end with Roosevelt's withering blast. In some matters of animal behavior, says Lutts, the nature fakers were right. The ranks are still divided and nature fakers still enthrall us, still outrage us. Lutts brings the controversy to the reader through his account of our current views of nature and wild animals — the Bambi syndrome, controlled deer hunts, Lyme Disease ticks, animal-rights activists, the recent movie *The Bear* based on "…the absurd notion that an adult male grizzly will adopt a bear cub."

Lutts concludes, "We are still in the process of shaping a new relationship between people and nature…. Environmentalists appeal to a grand ecological

design, far greater than ourselves, that nurtures us, yet will strike us down if we violate its laws. Whatever new mythic power emerges to form the new foundation of our culture, it must embrace both understanding and emotion, science and sentiment. It must also help us to delight in and respect the multitude of other lives with which we share the earth, while affirming death as life's natural and welcome system."

This is a powerful and important book, as much about the current crisis between humans and the natural world as about the nature faker controversy.
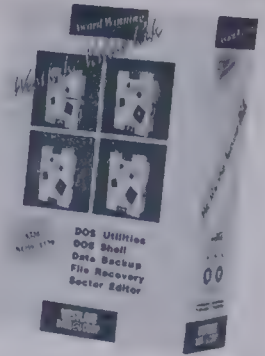
-Annie Proulx

Charmed by Lake Erie's Shore

An hour off the Ohio Turnpike, travelers on Route 6 find everything from walleye to winter surfing.

TEXT AND PHOTOGRAPHY BY JAY PARIS

On a rocky beach near Lorain: Eddie Fitzpatrick and his family among Lake Erie "Blarney Stones."

THE OHIO TURNPIKE is a fantastically busy road that shuttles millions of transcontinental travelers across a relatively inconspicuous 241 miles of four-lane. If you've trekked this stretch of America, you probably don't remember it well, and even those of us with Buckeye pride will forgive your lack of sentiment. I admit that in most seasons the vistas from the turnpike are a long stretch of bucolic flatland. But there is more to Ohio than these views. Only miles to the north is Route 6, an alternative road that winds through the shoreline villages of Lake Erie.

For those of you who know ocean shores — Marblehead, Fire Island, Big Sur — Lake Erie's charms may seem dubious. But take an extra hour away from the Ohio Turnpike; a surprise awaits you. If heading west, leave the toll road at Lorain, exit 8. Head north, and within a few miles you will confront a vast sea of fresh, blue-gray water that warms up to 74 degrees in August and supports cars and ice-fishing shacks in mid-January.

Lake Erie beach sand varies from rough granular to stony. Visiting Europeans marvel at it while Floridians scoff. But one must put the Lake Erie shore in its geologic perspective. Lake Erie is the shallowest of the Great Lakes, rarely exceeding 40 feet in depth. The "dishpan effect" causes waves to form easily (and quickly), which have eroded areas of sandstone and granite that crop out of the rich Ohio loam. On Lakeview Beach in Lorain the sand is quite good, but just a hundred yards to the east I know a beach so rocky that an Ohio entrepreneur named Eddie Fitzpatrick has been marketing its smooth rocks as true Irish Blarney stones. He sells them for $6 in a handsome package with old Gaelic designs.

Still farther down the beach is one of Lake Erie's noted surf shops. Lake Erie surfing happens mostly in the winter. Typically, surfers appear with the gusts and snow. I've had the pleasure of driving Route 6 at Christmas and watching surfers on the horizon dodging ice masses to ride eight-foot rollers. I've even heard of local surfer songs like "The Little Old Lady from East Cleveland," but have failed to find the vinyl.

Sometimes the surfers climb the tree lines of firs, hemlocks, and willows that emerge from the sand in search of large offshore waves. In summer, tourists sit under these same canopies to watch the sun set on the lake — normally a West Coast phenomenon that is just as sweet in the heartland.

From Lorain west, Route 6 crosses an open section of the lake that offers a fascinating collection of freshwater artifacts along its shore. Since the prevailing winds blow southeast and trees encroach much of the Canadian side, there is a constant accumulation of driftwood to be harvested from rocks and beach along this stretch. Craftspeople come to carve the weathered wood. In winter, ice coats the broken boughs, forming wild ice sculptures that are stunning in any light.

Still farther west, Route 6 leads to Vermillion. Nantucket may have its captains' homes and Martha's Vineyard its Edgartown, but I think Vermillion offers as much history as both. It was just off Vermillion that Commander Perry won the famed Battle of Lake Erie during the War of 1812. Paintings, books, and even timbers from his original flagship demonstrate the naval victory in the town's Great Lakes Historical Society Museum. But Vermillion's most notable distinction is its striking rows of Cape Cod homes lining canals

filled with yachts and fishing boats. Restaurants are also plentiful, offering some of the best freshwater fish fare in the world. In June, the town pays tribute to the catch at the Annual Vermillion Fish Festival, highlighted by the crowning of the Fish Queen who rides through the village on a large stuffed perch, waving to her admirers.

Past Vermillion, Route 6 follows the shoreline to the town of Huron, changing in character again. It is a delightful sojourn that winds past soybean fields, beaches, and fishing boats. At times, the shore seems almost barren of civilization, ideally suited to the wildlife attracted to the estuaries that adjoin the shore. Bird watchers gather at a marsh known as Old Woman's Creek, where miles of trails expose gray herons, turkey buzzards, and occasionally eagles.

Eventually the openness and waterfowl of this small stretch of the lower Great Lakes succumb to condominium complexes and burgeoning marinas and other elements of upscale living. But even with its controlled growth, the Huron area has a certain charm. Among its assets are charter fishing boats, parked by the dozens in its many marinas. All are for hire by the half-day or more. Charter-boat captains on Lake Erie have their own pedigree that comes with seasoning, success, and a propensity to tell stories. Mythology is an ingredient of the fishing life, and Lake Erie has its myths and myth makers. The prize catch is walleye, a wonderfully tasty fish that commonly measures two feet in length. Anglers come from around the globe in search of it, so the competitive edge generally goes to the captains who find walleye quickly. I once went out with two brothers named Hackin Harry and Razor Ralph Delorean who seemed to know where to go. Their boat was called *Mabel's Bums* because their Aunt Mabel died in a car accident and willed them the insurance money for a new hull. I heard they are working out of Ashtabula — another town to the east — but will return for the 1991 season.

Just south of Huron, exit 7 of the Ohio Turnpike lies amidst field corn and soybeans. As you approach it, the land flattens again and its dullness is barely tempered by truck dust and the pale green weeds that flourish along all Midwest toll roads. But after traveling the gentle, alternative route along the lake, the passage through the remainder of Ohio will not be hard.   ∞

Jay Paris writes from Letonia, Ohio. He is a senior editor at Ohio *magazine.*

Points of Access
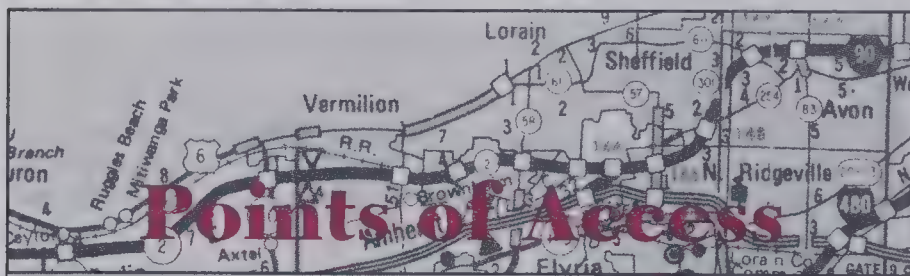
WHEN VISITING THE LAKE ERIE SHORELINE in warm weather, prepare to see a panoply of boats of every possible description. Charter fishing boats float offshore as long sailboats intersect them. Cigarette boats race along the shore, and cabin cruisers are common. The Lake Erie of today is clean and welcoming. And if you enjoy eating fish, the famed walleye is in abundance. Attend the Vermillion Fish Festival in late June and the supply is endless. But fish are not the only delights of Vermillion. The Great Lakes Historical Society Museum (216-967-3467) at 480 Main Street is open from 10 to 5 daily through December 31 and on weekends during the winter. Filled with paintings, ship models, and artifacts, it gives an excellent overview of the lake's history. I like the museum bookstore, which contains my favorite Great Lakes volume, *Memories of the Lake,* by the late Dana Bowen, a renowned Erie chronicler. You'll also find a good recent title by Alexander Meakin, *Master of the Inland Seas,* and stirring Great Lakes stories by adventure writer Dwight Boyer.

To eat casually but well during your tour, consider McCarvey's in Vermillion. For more formal fare, there is also Chez François. Both offer waterfront seats. If you wish to catch what you eat, consider spending half a day with a charter fisherman. They are plentiful and listed in Vermillion's paper, *The Photo Journal.*

To buy an original Lake Erie Blarney Stone with "Blarney" sandblasted into its side, write Fitzpatrick's Irish Books and Art Gallery, 1576 Oakmont Road, South Euclid, OH 44121.

For overnight arrangements, consider calling the Vermillion Chamber of Commerce, (216) 967-4477.

To See What Comes of SCIENCE AND INVENTION

It was a question a college professor was expected to answer:
What would technology do for Jackie Doyle?

- FICTION BY PAT McSHERRY -

TWO BIG MEN, MADE EVEN LARGER BY THEIR GLISTENING, heavy coats, came into the bar, along with a blast of cold air and a great rush of noise, stamping feet, swearing, slapping wet caps against thighs, and slamming the front door twice to get it firmly closed.

"Thought you said you were gonna get this fixed, Jackie. Man get a helluva muscle strain trying to conserve energy around here," said one of the newcomers.

As the men hung coats and caps on the rough peg coat rack to the side of the door, the stubby host-bartender went forward to greet them, asking an overobvious question. "Teddy, whatta you think? It's gonna rain?"

"Where's it look like we spent the afternoon? Daytona? I tell you, Jackie," replied the taller of the two men, "If 'It's gonna rain?' any harder, I better get two, three sets of new wiper blades just for the ride home. You ever get more than ten feet from that register, go outside someday, you'd know 'gonna rain?' Look, Jackie, I wanna do the weather, I'll get me a twenty-five-dollar haircut, nice suit, a silk tie, go take over for that guy on Channel 3. Maybe today, though, we came in here for a couple of beers. Or did the truck not come this week? 'It's gonna rain?' Damn cute, Jackie."

The two men looked down the bar to Harry Drummond and nodded. Harry tipped his ball cap and asked in mock seriousness, "Gonna rain, Teddy?"

Teddy laughed, smiled, and said, "Yeah, it's gonna rain."

As Jackie Doyle went off to serve the needs of his new guests, Harry laughed to himself and looked into the mirror behind the bar. With one hand he unconsciously drew wet, overlapping circles on the bar top with the bottom of his glass. Harry came in here, to Doyle's, to maybe drink one or two beers two or three times a week. Sometimes he came in only for a pizza, a sandwich, or a cup of coffee. Mostly he came in here to mingle.

The harassing, friendly banter among Jackie, Teddy, and the other big man — his name was Ray LeMoine and he worked with Teddy at the highway department — continued for several minutes. That, thought Harry, is why I decided to live here in Osbourne. The talk is real; the humor is real; the people are real — people don't come more real than Jackie Doyle or Teddy Pelletier.

Most of the other faculty members at Webster College, where Harry was a member of the English Department, lived near the campus or commuted from one of the bigger towns along Route 89 that offered, as one of the other teachers had said, "some degree of civilization and certain of the amenities." That's why Harry chose Osbourne. Or to be precise, eleven point nine mostly wooded acres with a small stream that ran across the property, north to south, that eventually flowed into the river two miles east of town.

He taught at Webster a full academic year before he bought his piece of land and put a precut log house on it that sat facing south, on a small knoll, about 60 yards west of the stream. Far enough back to avoid the perils of a flash flood, he was close enough to hear the rush and tumble of the water when the day grew still. On a bad day it took Harry 20 minutes to drive the 16 miles to the campus. When he had worked in Washington, it sometimes took him that long just sitting in traffic on 495; the commute time was extra. Here, the county did a good job keeping the gravel road to the

highway clear because it was also a school bus route. Even if they didn't, Harry had few problems getting to work each morning. As he said, "Snow was why God had man invent four-wheel drive."

Harry's place was a mile north of the state highway that ran east and west, generally paralleling the river. Three miles west, the highway became Osbourne's main street; two miles to the east, the state highway intersected the interstate. Osbourne had few "amenities." It had no fast-food restaurants or even a motel. It did have three gas stations, two grocery-general stores, a café, a car-truck-tractor dealership, a library, two hardware stores, an American Legion, two schools, three churches, and nine cutesey-craftsy gift shops that were open when the tourists came. Heavy industry around here was either Gene Delecroix and his 15 or 16 people over at Northern Maple Designs or Albert Hammond and his two boys and the canoe and boat works. Osbourne could also boast of Doyle's, a place where world problems were solved, where the Celtics and Red Sox were analyzed, and where the Patriots were ofttimes cursed. You could also get a decent steak there.

You don't move to a place like Osbourne from northern Virginia and get elected right away to the town council, but Harry wasn't pushy. When he came around looking for a piece of land, his Cherokee had in-state plates and a local inspection sticker. Harry didn't dress like a catalogue model. His Levi's were faded from wear and washing, not purchased that way; his T-shirt didn't advertise a chain of disco cafes; his black ball cap said "Remington," not the name of some bar in Key West in bright green on Day-Glo pink.

After Harry got his log home built, the locals began to notice several things: They noticed his checks didn't bounce. He was a serious grouse hunter. His fly rod was bamboo; his spinning rods were Fiberglas. His garden was neat, and there was never any trash in the ditch that ran alongside his place next to the county road. They also noticed that when the attractive young woman with the Massachusetts plates and a faculty sticker from a college in Boston was around, Harry went to church on Sundays. Depending on the season, there might be a canoe, a bicycle, or cross-country skis on the rack on top of her yellow Subaru station wagon.

After about two years of merely being "noticed," two things happened. The first was a bitter cold January morning when Harry didn't see the familiar lights on in old Mrs. Beatty's kitchen when he drove by. He broke in through the kitchen door and found her lying at the bottom of the stairs with a broken hip. He carried her out to his Cherokee, drove her to the hospital, called the college, and took a sick day. Harry crossed his second acceptance bridge down at the American Legion. He walked in one Saturday and said he was thinking of transferring his membership up here from Virginia. Someone asked, "Where?" Harry misunderstood the question and said, "Third Marine Air Wing, Cherry Point and Danang." After that, Harry was a little closer to being accepted. Not a local, but he was accepted. And soon, other things started to happen. Harry got asked to join the volunteer fire department, to work at the Fourth of July picnic, to serve on the library committee. It was from the American Legion that Harry knew Teddy Pelletier.

"So whatta you think, Harry? Should I get a computer?" asked Jackie Doyle leaning over the bar and wiping away Harry's overlapping wet circles. "Whatta you think?"

"I think you buying a computer, just because you got the money, isn't the best idea I've ever heard come from your side of the bar. Why don't you just buy an elephant

gun? That's about the same price as a computer. You could hang it there, behind the bar, and people would come in here from all over to see Jackie's elephant gun and spend a lot of money. You sound like some guys down in Boston. Because they got $35,000, go buy a BMW when maybe a Chevy would get them to work or the dog track just as well, and get stolen a whole lot less often. Why don't you ask yourself what you would do with a computer, not what kind of computer to buy? Why the sudden interest?"

As Jackie Doyle thought about Harry's questions, he continued wiping the water rings from the bar top. He had believed that Harry, a college teacher, would applaud his idea. "Well," began Jackie, "I got an ad in the mail." Jackie walked over to the cash register and returned with a brochure he had received several days before. "Whatta you think?"

Harry took the brochure that Jackie extended to him and began to read. TREMENDOUS SAVINGS NOW!!!!!! DON'T BE LEFT OUT AND FALL BEHIND YOUR COMPETITION! CUT BUSINESS COSTS AND SAVE MONEY! JOIN THE TECHNLOGY AGE TODAY! COMPLETE PACKAGE ONLY $1,495.99!

"Whatta you think?"

"Well, Jackie, I got a computer, but there is an awful lot I don't know about them. First, what I do know is that if I were writing this brochure, I'd spell 'technology' differently. Second, I've never heard of either this brand or this company. They give you a post office box and a telephone number that's halfway to Hong Kong. Jackie, this guy's office could be a van parked next to a phone booth."

Jackie Doyle refilled Harry's glass and asked, "So, you're saying I shouldn't buy it by mail?"

"No. We all buy things, through the mail, everyday. It can save a lot of time and money. You could get in the car, drive a hundred miles and visit a hundred computer stores. But why waste the time and effort? I'm just saying deal with someone who knows what they're doing, someone who has a track record. Talk to people who already have computers. Talk to people who are happy with what they bought — and people who are unhappy, too. People who got burned on the hardware or the software."

"What's the difference," Jackie asked, "hardware and software?"

"Hardware is like a 10" Sears table saw. That's hardware. To do something productive with that saw, other than just make noise and sawdust, say you want to build a boat or a gun rack, you draw up or buy a set of plans. Software is the plan that tells the hardware what to do. That make sense?"

"Yeah. OK, Harry, you got a computer. Suppose I get exactly what you got now?"

"That would be great, for me. My computer breaks, I can always use yours. But you have to build one to make it do what you want. I use mine to store and figure out student grades. I write exams and quizzes, lectures, letters, and magazine articles on it. The great thing is that I can write something, store it, bring it up later, change it to put in new ideas, whenever I want. I even have an information service, a whole library of things I can tap into, from all across the country, using my telephone line. But what I really like is that I can store odd bits and pieces of information in the computer to use later, like an electronic shoe box."

"Sounds great," said Jackie, but it was becoming obvious that he was now unsure about the idea of a computer.

"It is, Jackie, it's great for me. But it's like a custom fly rod that comes in different lengths and weights. What fits me may not fit you, may not feel right or work

right for you."

"That makes sense, and I know the next thing you're gonna ask me: 'Would I buy a custom fly rod I never held in my hand, a brand I never saw, from somebody I never heard of, by mail?' Right?"

"Exactly. If it's a company you dealt with before, somebody you know has dealt with the company and is happy, then it's a different story. Go around. Talk to people. Ask questions. What about Dotty Schivone over at Delecroix's? They've got a computer over there. Probably use it to do the payroll, figure taxes, send out letters, work out schedules, figure costs. Talk to Gene and Dotty. You need to talk to people who use their computer in business, not to guys who teach English."

"OK, so I talk to Dotty. She's not gonna go computer window-shopping with me. Harry, I go in a computer store, I won't even know what to ask. Whatta I say, "I own a bar and I need a computer'?"

Harry thought a moment, making overlapping wet circles on the bar. Jackie picked up a towel to erase Harry's artwork. When the answer came to him, Harry looked up and smiled. "No. What I think, Jackie, is that you need your own personal computer consultant."

"For crissakes, Harry, I can't afford to pay a consultant. I thought you were being serious. That's why I brought up the whole idea in the first place."

"I am being serious, Jackie. There's a new guy over at the college, name of Paul Pappas. He teaches a course on computers."

"Come on. I can't take time off from the bar to go to college, and I can't afford a consultant."

"Jackie, Paul's from Providence. He knows deep-sea fishing, surf casting, and

Modern Arts

quahoging. Paul was asking me, awhile back, about catching big trout, fishing in the lakes up here, what to look for in a canoe, should he go for a 15- or a 17-footer."

"You could tell him about all those things, Harry. You know trout fishing and canoes."

"Yeah, I could tell him, but then he doesn't need Jackie Doyle. Why don't I talk to Paul? Bring him in here some time. You give him a beer. Let him look around at your setup. You answer his questions. Ask him some questions. Have Helen show him the records and accounts she's keeping and dealing with. What's she think of buying a computer?"

"I don't know. I'll tell her I'm 'thinking' about getting a computer to make her side of the business a little easier, to modernize the paperwork. You tell, you ask, that guy, Paul Pappas to come around and drop in, have a beer. How's that sound?"

"Tell you what. Maybe I'll bring him in here next Tuesday, that's all right with you. I'll talk to him tomorrow and let you know."

"Thanks, Harry. I appreciate it."

"You just show your appreciation to Paul when I bring him around. Then, invite him back. Take him down the canoe shop, introduce him to Albert and his boys. Take him over to Flemming's, show him what to look for in a good fly rod, what kind of flies to buy. Then come trout season, take him out on the lake. Show him how to catch big trout."

Jackie Doyle looked relieved. "Thanks, Harry."

"No sweat, Jackie, no sweat. Well," said Harry, "I gotta go. I'll talk to Paul tomorrow."

"Seriously, whatta you think? Can a computer save me money? Will all this technology make running a bar any easier?"

"I don't know," admitted Harry. "I don't know you're going to see a lot of savings the first day. It will save you time. It will save Helen from a lot of repetitious things she does doing the books, figuring salaries, and doing the schedule. If time is money, yes, a computer will save you money. That's where you'll see the savings. A computer can speed up the paperwork so you can do other things. That's true whether you run a bar, a dairy farm, a hardware store, sell cords of wood, or run a cabinet shop. Gotta go. See you, Jackie."

"Drive careful, Harry. It's wet out there. It's been raining."

"Took you this long, Jackie, to figure out it's raining?" questioned Teddy Pelletier from his spot at the bar. "If the beer truck's been by, the pizza oven's not broken, how about a little service for starving people. Whatta you say, Jackie?"

Everyone in the bar laughed, smiled,

and enjoyed the moment. It was a nice place, an honest place, thought Harry. It was real, populated with real people.

As he drove home, eastward through the night, Harry was plagued by an idea, a quote, he could see in his mind, but which he could not fully bring into focus. It bothered him, because that quote held the answer to the question Jackie had asked: What would the computer, what would technology do for Jackie Doyle?

When Harry got home, he walked in, turned on the lights, and went directly to his own computer. He turned everything on at the surge bar and waited. When the computer timed out, Harry began his search. Let us see, he thought, let us see what comes of science and invention. After several minutes, he found what he was seeking in a file in his electronic shoe box. It was a quote he sometimes used in class when discussing the evolving influences on daily life that had occurred since the Renaissance and the Age of Enlightenment. He read the words on the monitor several times to be sure this was the correct answer to Jackie's question. When he was satisfied that it was, he printed the file, then read it again, a quote by Jacob Bronowski he first saw 30 years ago. Harry smiled. The passage synthesized the true relationship between mankind and technology and between mankind and the computer. Harry read:

We sometimes think that progress is illusory and that the devices and gadgets that became indispensable to civilized men in the last 500 years are only a self-propagating accumulation of idle luxuries. But this has not been the purpose in the minds of scientists and technicians, nor has it been the true effect of these inventions on human society. The purpose and the effect has been to liberate men from the exhausting drudgeries of earning their living, in order to give them the opportunity to live.

This was it. This was it, thought Harry. This was the answer that Jackie Doyle was seeking. After a moment, Harry put the piece of paper on his desk, shut off his computer, and looked once more at the quote he had found. This was the answer regarding technology, and especially computers, that so many were seeking. Harry hit the light switch and walked out of the room. ∞

In addition to being a writer of short stories, Pat McSherry has tended bar, cooked in restaurants, served 20 years in the Navy, worked in the civilian software industry, and handled explosives in the coal mines.

Does Everything But Brew Coffee
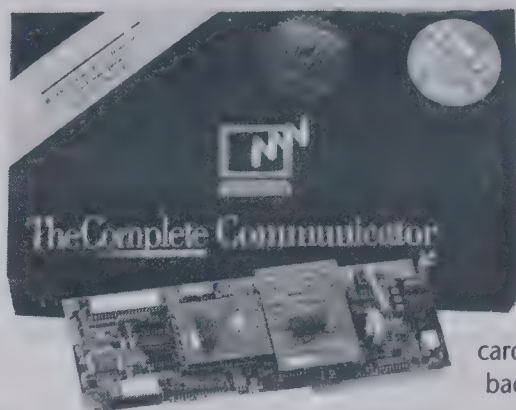
TheComplete Communicator from TheComplete PC is a personal communications center combining a state of the art, high-speed fax modem (9600-bps), voice mail, and a 2400-bps "Hayes compatible" data modem on a single add-in card. For faxes, it offers true background operation for sending, receiving and printing. It allows scheduled transmissions to take advantage of the lowest phone rates, automatically generates cover sheets, and transmits single documents to multiple locations. It's compatible with all CCITT Group 3 facsimile machines, and features automatic fallback to 4800 and 2400-bps.

With the voice mail software, you can assign up to 999 password-protected voice mailboxes, have messages forwarded, create a call menuing system, or retrieve messages from any touch-tone phone.

Finally, it allows you to send files or access bulletin board or on-line services with its 2400-bps data modem. This supports Bell/CCITT 103, 212A, V.22, V.22 bis, standard Hayes AT command set, speeds of 2400, 1200 or 300-bps.

Requires IBM PC, XT, AT, PS/2 Model 30 or 100% compatible.

TheComplete PC ... 2 years
5828 TheComplete Communicator .... **$449.**

Portable Performance
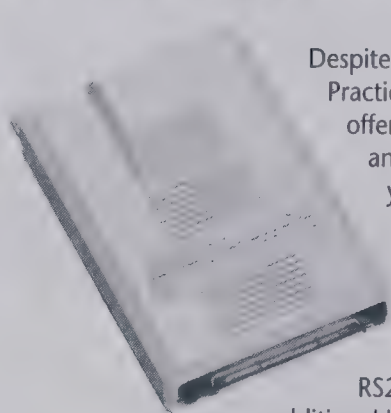
Despite its compact size (3"x 2.25"x 1"), the Practical Peripherals **Pocket Modem 2400** offers solid modem performance, features, and value. With the Pocket Modem 2400, you don't have to worry about desktop clutter, or another cumbersome peripheral to transport when you're on the move. And because it's a "line powered modem" the Pocket Modem 2400 is powered from the RS232 port and telephone line, requiring no additional batteries or separate AC power supply. Standard features include 0-300/1200/2400-bps operation, automatic adaptive equalization, auto answer, pulse or touch tone dialing, and full or half-duplex operation. The Pocket Modem 2400 also has a unique Software Speaker™ feature which allows the modem to send detailed call progress information to be displayed on your PC. It's also compatible with all current communications software, so you can use applications you're already familiar with. Combine all this with the 5-year warranty offered by Practical Peripherals, and see for yourself how the Pocket Modem 2400 has no rival—even when compared to much pricier alternatives. Order today and pocket the savings!

Practical Peripherals ... 5 years
8132 Pocket Modem 2400 .... **$109.**

Keep The Lines Of Communication Open

For sending and receiving phone-line data, Hayes is the clear choice. And if it's an easy-to-use communication program that you ask for, Hayes responds with **Smartcom Exec**. Smartcom Exec combines a menu and table interface with a Phone Book metaphor for effortless operation. But just because it's simple doesn't mean you have to sacrifice features. Smartcom Exec works with any Hayes V-series, MNP, or "Hayes compatible" modem and supports such popular protocols as XMODEM, YMODEM, and Kermit. Macros can be stored, and its Peruse Buffer retains the information that crosses your screen, even after you disconnect. And with mouse support and short-cut keys, you can quickly look up your favorite numbers in the electronic Phone Book.

Looking for a full-featured modem in a compact size? The **Personal Modem 2400 Plus** measures three inches square and plugs directly into any AC wall outlet. Plug the 25 pin cable into the serial port on your PC and you're off and running. This 2400 baud modem is compatible with Bell 103, 212A, and V.22 bis communication standards, and will switch automatically to 300 or 1200 bps to work with slower units. It also includes Smartcom EZ communication software, so you can quickly and effortlessly send and receive files. Good things really do come in small packages.

For the fastest facsimile system without a desktop fax machine, you need the **JT Fax 9600B**. The JT Fax 9600B plugs right into a PC or AT expansion slot, sending and receiving fax documents within your computer. The JT Fax can communicate with any Group 3 compatible fax machine or PC-based fax, the most popular CCITT fax standard for fast, reliable, digital transmissions. And, it operates in the background so you won't be unexpectedly interrupted when you're working on something else. A scheduling feature allows the JT Fax to send unattended faxes in the middle of the night when rates are low. You can even send the same fax to multiple locations without having to enter a new phone number after each transmission.

Hayes ... 2 years
7983 Smartcom Exec 2.0 *(5¼" & 3½" incl., NCP)* .... **$79.**
8069 Personal Modem 2400 Plus .... **155.**
8049 JT Fax 9600B with Smartmodem 2400 .... **379.**

Travelling Companion

When you're on the move, less is more. Travelling light ensures more freedom, more mobility, and more comfort. And with the **MC600 Mobile Computer** from PSION, you'll see just what we mean. It weighs in at only 4.3 lbs, is no larger than a standard notebook, and fits easily into any briefcase. Compared to the usual three to four hour battery life of similar machines, the MC600 provides up to thirty hours of uninterrupted power using 8 "AA" batteries. Communicating with your desktop PC is easy because built-in *Laplink III* software means files can be quickly transferred; and all those confidential, sensitive documents and spreadsheets you might keep on your PC can be carried with you.

The operating system of the MC600 is the first to have MS DOS 3.2 on internal ROM (called ROMDOS), offering instant on/off capabilities. Beacause of this, there is no need to "boot up" the unit, and no need to close a file before turning it off. Its Flash EPROM Memory is impossible to crash, so your data is always safe and secure. Ports are available for an external disk drive, external monitor, and serial/parallel connections. And the MC600's black and white CGA LCD screen is extremely clear and easy to read. Includes variable speed (4.77/7.68 MHz) 80C86 processor with 256K Flash EPROM, 768K RAM, and 1Mb RAM disk.

PSION ... 1 year
7086 MC600 Mobile Computer .... **$2149.**

More Power To You

Looking to upgrade the power supply on your AT/386? With the PC Power & Cooling **InnerSource 2210**, you can do just that *and* provide uninterrupted power at the same time. During normal operation, it provides 220 watts of surge suppressed power to your PC, and sends an additional 100 watts of current to an external socket so you can plug in a monitor and not have to worry about finding another wall outlet. If you happen to lose power, the UPS system is always ready to provide your PC with power for another five to ten minutes, ample time to save those files that would have been lost forever when the lights went out. An audible alarm will sound occasionally to let you know the backup is working and to give you confidence in knowing your work is safe.
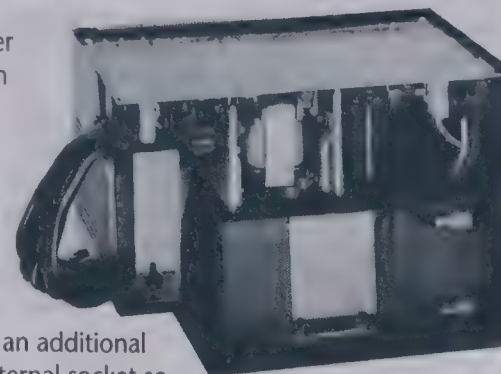
The InnerSource has four power leads to attach to your internal drives, and is UL approved. It operates on power ranging from 95-132 volts so the battery won't be switched on needlessly during sporadic power sags and surges. It's output equals that of a 550VA external UPS, but because it's internal, there's no need to find room to accommodate a bulky peripheral. Get the InnerSource 2210 and you too can discover why *PC Magazine* (11/27/90) was so impressed with its "affordable price-to-features ratio."

PC Power & Cooling ... 1 year
7053 InnerSource 2210 .... **$349.**

Game, Set, And Match

Intel's **Matched Memory** SIMMs are the easiest and most cost effective way to upgrade the memory on your PS/2. Designed exclusively for the IBM Models 50Z, 55SX, 65SX, 70, and some Compaq, Zenith, and Hewlett-Packard computers, Matched Memory SIMMs greatly improve the performance of your more memory intensive applications. Just install them on your PC's motherboard and you're ready to go. A 5-year warranty makes this an unMatchable deal.

Intel ... 5 years
8901 Matched Memory 2 Meg **$189.** 8903 4 Meg .... **$499.**

It's So Intense

If your Hewlett-Packard LaserJet is the game, then Intensify is the name. Micron's **Intensify** memory boards can be used to expand the memory of your HP LaserJet printer to better manage your graphic data. More memory means more speed, and more room to store forms, macro commands, and soft fonts. So let your LaserJet live up to its full potential at less than half the price of Hewlett-Packard upgrades—don't just sit there, Intensify it!
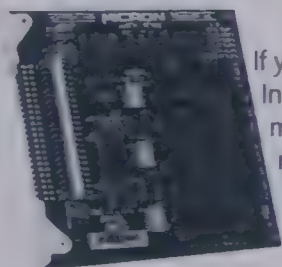
Micron Technology ... 2 years
7595 Intensify for LaserJet IIP or III 2 Meg......................... **$129.**

A Real Eye Catcher

Peer into the future of color with the Boca Research **SuperVGA** card. The SuperVGA card displays 256 simultaneous colors, supports both an 8 or 16 bit bus, and has hi-res drivers for many popular applications. With standard 512K memory, the SuperVGA supports 640 X 480 VGA resolution. Bring it up to 1 megabyte and get both interlaced and non-interlaced 1024 X 768 resolution. Now isn't that worth looking into?

Boca Research ... 5 years
8381 SuperVGA w/1 Mb**$149.**

Stay On Top

For the ultimate in cursor control, choose the Kraft Systems' **TOPTRAK** trackball. With adjustable sensitivity between 10 and 1150 DPI, particular pixels can be pinpointed with precision. TOPTRAK also includes a unique footpedal accessory for simple clicking and dragging. And the opto-mechanical design will keep the TOPTRAK rolling for years. Backed by a 5-year limited warranty.

Kraft ... 5 years
7862 TOPTRAK .... **$75.**

Back On TRAC

Take the mouse world by the ears with the **PC-TRAC** trackball. Since it stays in one place, there's no more scurrying around the desktop as with standard mice. The large roller ball is surrounded by three easy-to-click buttons, and its sleek design makes for very comfortable computing. An outstanding value; competitively priced.

MicroSpeed ... 1 year
PC-TRAC Trackball:
6007 serial .... **$75.**   6008 bus .... **$89.**
7271 inport .... **79.**   6330 PS/2 .... **79.**

Dynamic Duo
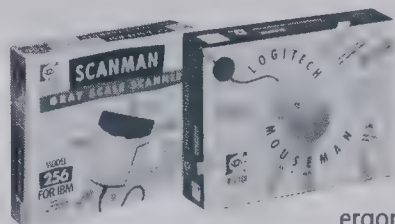
Take control of your cursor with the new **MouseMan** from Logitech. The MouseMan has a three button ergonomic design and fits comfortably in any hand. Combined with Logitech's **ScanMan 256**, scanning images into Windows 3.0 with 256 gray scale capabilities is a cinch. Great for logos photographs, newspaper clippings, and more! There's no better way to import images.

Logitech ... limited lifetime
8694 MouseMan .... **$69.**   7975 ScanMan 256 ..... **$319.**

On The Road Again

When you're away on business, your laptop is away with you. You have to carry it with you even when it's not in use, and combined with a briefcase, suitcase or umbrella, it can make for a very taxing trip. Make your luggage a little leaner with the Targus **Premier Leather Carrying Case**. This dual-purpose satchel combines a practical laptop carrying case with a feature-filled, deluxe briefcase. The laptop area allows enough space for a unit 17" x 4" x 13", accommodating virtually all laptops on the market today. The shell is padded with ⅜" high density foam to protect against those bangs and bumps along the way. It's fully equipped with a plethora of pockets including four lined document sections, a zippered portfolio section, three 3½" disk pockets, and two other miscellaneous storage areas. Not enough? Add to that special compartments for pens, business cards, keys, and even an eyeglass pouch, and you've got a bag that's more versatile and far superior than any standard briefcase. Your valuables are protected from the elements by high-quality black leather, and all Targus cases include a padded leather shoulder strap for comfort and convenience.
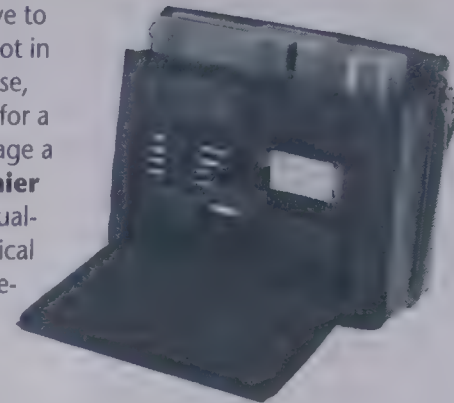
Targus ... lifetime
6037 Premier Leather Carrying Case .... **$199.**

Seeing Is Believing
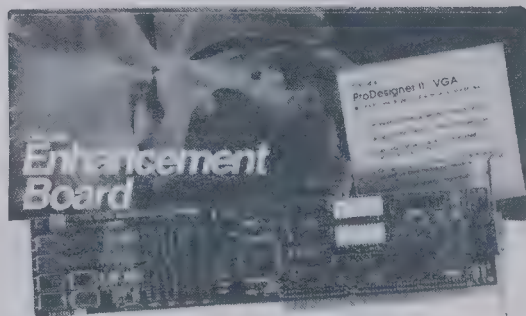
If it's impeccable images that you seek, then Orchid Technologies is your source. Since 1982, they've been producing high-quality peripherals for PC's. The latest additions to their video product line are the **ProDesigner/e** and **ProDesigner II VGA**. The ProDesigner/e is MDA, CGA, EGA, and Hercules compatible, and has both 9 and 15 pin analog connections. With 256K video memory, it displays 256 color, 800 x 600 resolution; and 16 color, 1024 x 768 resolution when upgraded to 512K.

The ProDesigner II holds a hefty one meg of memory, offering up 256 colors at 1024 x 768 resolution in both interlaced and non-interlaced modes. The ProDesigner's analog signal lets you plug in any 15 pin VGA monitor, and its advanced technology and large memory capacity make the ProDesigner II one of the fastest VGA's on the market today.

Both boards come with high resolution software drivers for popular applications like Windows, AutoCad, and Ventura Publisher. High speed 132 column modes are also supported for use in programs like Lotus 1-2-3 and WordPerfect. Choose either Orchid ProDesigner, and watch your monitor bloom with color.

Orchid Technologies ... 4 years
7888 ProDesigner/e (w/256K upgradable to 512K) .... **$209.**
7863 ProDesigner II VGA (with 1 Meg) .... **329.**

Play It Safe
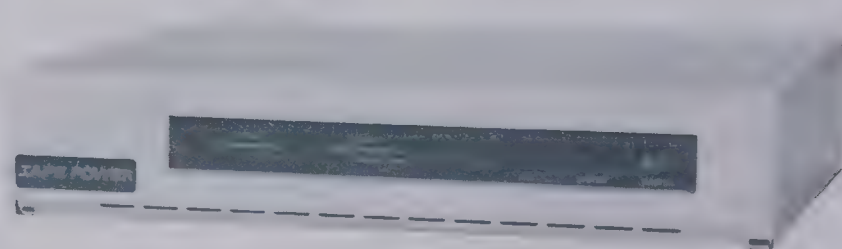
Protect yourself and your data with a backup power supply that you know you can count on. The SAFE Power Systems **SAFE 400S Power Backup** provides instant, steady power within 4 milliseconds of an outage, and your computer will never know the difference. You know, however, that your files are secure, and that a potentially disastrous situation has been avoided.

Once the backup has been activated, an audible alarm indicates the level of power being discharged so that you can allow adequate time to save your work and turn the system off. The 400S provides 360 volt-amps, enough to run an AT or 386 for 10 to 15 minutes. Low battery and overload indicator LED lights warn of problems when the power is on.

The 400S has a unique SLIMLINE design, and measures 3.15" x 16.5" x 15.75", so that it rests unobtrusively under your monitor. Conveniently located on the front of the unit are three individually switched outlets, which allow you to shut down separate components as necessary. With the 400S Power Backup, you'll always be playing it safe.

SAFE Power Systems ... 2 years
6747 SAFE 400S Power Backup .... **$399.**

Have our number? As one of our preferred customers you may notice that this issue has a new number – 1-800/800-0020. Please use this number when placing an order. Why? Well, we love stats. Actually, it will enable us to know automatically that you're ordering from *Marlow RFD*. Which helps us keep our costs down, which helps us keep our prices down, to you.

Call us, 'cause you'll probably get us. We're here from 8:00 AM until 1:00 AM Monday through Friday and Saturday 9:00 AM until 5:30 PM. So if you happen to be browsing through *RFD* late into the evening hours and stumble across "I gotta have one of those," call us. You'll have it before you know it!

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The four-digit number next to each product is the product's ITEM NUMBER. Please refer to this number when ordering. Thank you.

SOFTWARE

We only carry the latest versions of products. Version numbers are current at press time.

Adobe Systems ... NCP
7547	☑ Adobe Type Manager for Windows ...	59.
8030	☑ Type Set 1 (7 Fonts)	59.
8032	☑ Type Set 2 (7 Fonts)	59.
8031	☑ Type Set 3 (6 Fonts)	59.
7928	☑ Adobe Plus Pack	119.
8367	☑ ATM & Plus Pack Bundle	169.
6590	☑ Adobe Streamline 1.1	229.
6591	☑ Adobe Illustrator 1.1	278.
7406	☑ Adobe Type Cart. 1 (Display Faces)	289.
7405	☑ Adobe Type Cart. 2 (Best Sellers)	289.
7392	☑ Adobe PostScript Cartridge	289.

(Entire Adobe Type Library, from 1 to 205 is available. Call for more information.)

Aldus ... NCP
1332	☐ PageMaker 4.0	499.

Alpha Software ... NCP
5104	☑ Alpha Four 1.1	319.

Application Techniques ... NCP
1214	☑ Pizazz Plus 2.0	69.

ASD ... NCP
7847	☐ Planisoft Scheduler 2.5	145.
7846	☐ Planisoft 2.5 (5 user)	559.
7845	☐ Planisoft 2.5 (10 user)	799.

Ashton-Tate ... NCP
6775	☑ Applause II (limited qty. at this price)	55.
4450	☑ dBASE IV 1.1	499.

Asymetrix ... NCP
7384	☑ Toolbook 1.0 for Windows	309.

Avery ... NCP
6006	☑ Label Pro 1.03 (Laser)	49.
7336	☑ Label Pro 1.03 for Dot Matrix	49.
6034	☑ List & Mail+ 2.4	39.
8669	Index Maker (3 Label)	14.
8668	Index Maker (5 Label)	16.
8667	Index Maker (8 Label)	19.

Laser and Dot Matrix Labels available, call for details

Bitstream ... NCP
7568	☑ FaceLift 1.0 for Windows 2.x/3.0	59.
8040	☑ FaceLift for WordPerfect 5.0/5.1	59.
7569	☐ Companion Value Pack 1.0	125.
8167	☑ Companion Pack PS 1.0	129.
8883	☑ Type City Cartridge with Deli	259
	☑ Typeface Packages ... each	59.

Entire Bitstream Font Library available.

Bloc Publishing ... NCP
1447	☑ FormTool Gold 3.0	55.
9039	☑ 3-D CHARTS To Go! 1.0	59.
6245	☑ Pop Drop Plus 1.0	59.
8086	☑ Personal Law Firm 1.1	59.
4594	☑ Form Filler 3.0	89.

Borland International ... NCP
7346	☐ Turbo C++ 1.0	95.
7357	☐ Turbo C++ 1.0 Professional	209.
6242	☑ Quattro Pro 2.0	339.
1514	☑ Paradox 3.5	529.

7986	☐ Competitive Upgrade to C++ Pro	145.
7988	☐ Competitive Upgrade to Paradox	145.

Brightbill-Roberts ... NCP
5408	☐ Hyperpad 2.0	85.
5843	☐ Show Partner F/X 3.6	229.

Broderbund ... NCP
1416	☑ New Print Shop Companion 1.0	33.
1434	☑ New Print Shop 3.0	39.
1433	☑ Memory Mate 3.0	45.
7289	☑ Dragnet 2.1	89.

Brown-Wagh ... NCP
8579	☑ MicroLogic More Fonts 2.0	75.

ButtonWare ... NCP
6419	☑ PC-File 5.01	89.

Caere ... NCP
6004	☑ Omnipage 386 3.0	489.
8933	☑ Omnipage Professional	699.

CE Software ... NCP
8066	☒ QuickMail 2.2.3 (5 user)	195.
8067	☑ QuickMail 2.2.3 (10 user)	299.

Central Point ... NCP
5038	☑ Copy II PC 6.0	29.
8114	☑ Backup 6.0	65.
5039	☑ PC Tools Deluxe 6.0	95.
5039	☑ PC Tools Deluxe LAN 6.0	625.

Checkfree Corporation ... NCP
6360	☑ Checkfree	19.

Chipsoft ... NCP
1663	☑ TurboTax 8.01 for 1990 Taxes	45.
	☑ State Packages ... each	34.
6221	☑ TurboTax 8.01 & Quicken Bundle	65.
8391	☑ Chipsoft Professional Tax Pkg.	229.

Chronologic Corp. ... NCP
8849	☑ Instant Recall 1.2	64.

Chronos Software ... NCP
4387	☑ Who What When 2.0	179.

CompuServe
7546	☑ DOS Membership Kit 1.2	23.

Concentric Data Systems ... NCP
6573	☑ Code Module 1.0	99.
7824	☑ Worksheet Report Writer 1.0	109.
6575	☑ R & R Relational Report Writer 4.0	159.

Corel Systems ... NCP
5506	☐ CorelDRAW! 2.0	389.

March 14
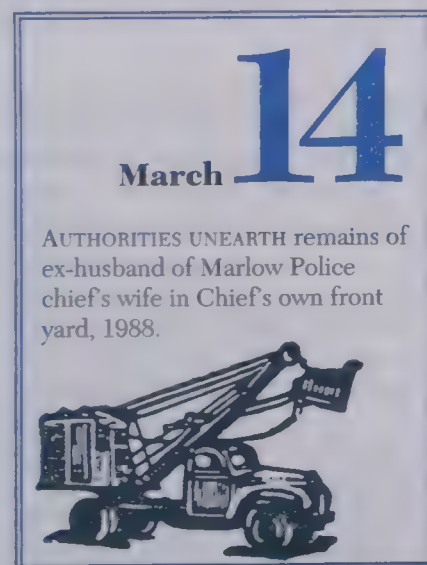
AUTHORITIES UNEARTH remains of ex-husband of Marlow Police chief's wife in Chief's own front yard, 1988.

Custom Applications ... NCP
8232	☐ Freedom of Press Light 2.5	59.
7474	☐ Freedom of Press 2.5	255.

DAC Easy ... NCP
1756	☑ DAC Easy Payroll 4.1	59.
1748	☑ DAC Easy Accounting 4.1	89.

Data Storm ... NCP
4798	☑ PROCOMM PLUS 2.0	69.

DCA ... NCP
7936	☑ Crosstalk Communicator 1.0	59.
2908	☐ Crosstalk XVI 3.71	119.
5611	☐ Crosstalk for Windows 1.1	125.
2911	☑ Remote 2.1	109.

Delrina Technology ... NCP
9035	☐ Winfax 1.0	49.
5738	☐ PerFORM Filler 1.1	89.
4325	☐ PerFORM 2.1	95.
7351	☑ PerFORMPRO 1.0 for Windows	274.

Digital Research ... NCP
8288	☑ DR DOS 5.0	145.
8969	☐ Artline 1.0	439.

DMA ... NCP
8378	☐ PC Anywhere IV 4.02	105.

Fifth Generation Systems ... NCP
|		
8103	☑ Pyro 1.0	35.
7725	☑ Direct Access 5.0	65.
3950	☑ Fastback Plus 2.1	119.
5504	☑ Brooklyn Bridge 3.0	89.
9007	☑ Direct Net 5.1 (5 Pak)	289.
9008	☑ Direct Net 5.1 (25 Pak)	1149.

FNN Data Broadcasting ... NCP
7005	☑ NewsReal 1.0	99.

FormWorx ... NCP
5810	☐ FormWorx with Fill & File 2.5	85.
7311	☑ Form Publisher for Windows 1.2	139.

Fox Software ... NCP
2233	☐ Foxbase Plus 2.1	199.
6188	☑ FoxPro 1.02	459.

Franklin Software ... NCP
7071	☑ Language Master 3.0	49.
7416	☑ Language Master 3.0 for Windows	49.

Funk Software ... NCP
7380	☑ P.D. Queue 1.0 (print spooler)	59.
2228	☑ Sideways 3.3	59.

Geoworks ... NCP
8789	☑ Ensemble 1.0	129.

Great American Software ... NCP
4880	☐ One Write Plus Acct. Sys. 2.06	189.
7378	☐ Financial Manager (Includes Accounting System & Lotus 1-2-3)	549.
5825	☑ Money Matters 2.0	42.
4879	☐ Payroll 2.0	65.

Hayes ... NCP
7983	☑ Smartcom Exec 2.0	79.

hDC Computer Corp. ... NCP
8974	☑ Icon Designer 1.0	35.
7389	☑ Windows Express 3.0	52.
7383	☑ First Apps 1.0	52.

Hewlett-Packard ... NCP
8101	☐ New Wave 3.0	119.

Hilgraeve... NCP
2323	☑ HyperACCESS/5 2.0 (DOS & OS/2)	115.

IBM ... NCP
6599	☐ Current 1.1	239.
9294	☐ Storyboard Live 1.0	299.

Individual Software ... NCP
6222	☑ Resume Maker 1.3	29.

Inner Media, Inc. ... NCP
8846	☑ Wide Angle 1.0 for Windows	69.
8857	☑ Wide Angle 1.0 for OS/2	69

Inset Systems ... NCP
7298	☑ Hijaak 2.2	99.
7300	☑ Inset Plus Hijaak 2.0	125.
7484	☑ Hijaak PS 1.1	135.

Insight Development ... NCP
8320	☑ PrinTools 1.0	85.
8687	☑ Print-a-Plot 2.0	189.

Insight Resource ... NCP
8851	☐ KO-Pilot for WordPerfect 5.1	55.

Intuit ... NCP
2426	☑ Quicken 4.0	39.

Isogon ... NCP
7478	☑ FontSpace 2.0	59.

LaserGo ... NCP
7635	☐ Go Script Plus 3.0	189.

LaserTools ... NCP
6882	☑ PrintCache 2.3	99.

Lifetree ... NCP
8182	☑ Correct Grammar 3.0	52.

Lord Publishing ... NCP
5191	☑ Ronstadt's Financials 1.02	75.

Lotus ... NCP
5417	☐ 1-2-3 3.1	429.
5653	☐ 1-2-3 2.2	349.
6356	☑ 1-2-3 2.2 (Network Server)	539.
6354	1-2-3 2.2 (Network Node)	319.
6125	☑ 1-2-3 3.1 (Network Server)	619.
6124	1-2-3 3.1 (Network Node)	399.
7333	☑ 1-2-3/G	529.
7812	☑ Lotus Works 1.0	99.
5134	☑ Magellan 2.0	109.
4131	☑ Agenda 2.0	299.
2660	☐ Freelance Plus 3.0	339.
7335	☑ Freelance Plus Network 3.0	489.
7334	Freelance Plus Network Node 3.0	289.
2667	☐ Symphony 2.2	529.

MECA ... NCP
4603	☑ Andrew Tobias' Tax Cut-1990 Taxes	49.
2798	☐ Managing Your Money 7.0	129.
8884	☑ MYM & Tax Cut (while supplies last)	129.

Micro Logic ... NCP
8317	☑ Keywatch 1.0	45.
6787	☑ Info Select 1.1	55.

March 16

MARLOW TOWN MEETING DAY.

Micro Maps ... NCP
6891	☐ Atlas PC 1.0 (EPS Version)	105.
6890	☐ Atlas PC 1.0 (Paint Version)	45.

Microcom ... NCP
7649	☑ Virex-PC 1.1	79.
6963	☐ CarbonCopy Auto Pilot 1.0	59.
6234	☐ CarbonCopy Plus 5.22	119.
7024	☐ CarbonCopy Plus Plus Host 5.22	199.
7022	☐ CarbonCopy Plus Plus Host (5 Pak)	429.
6236	☐ Relay Gold 4.0	175.

Micrografx ... NCP
7683	☐ Charisma 1.0 for Windows	349.
6597	☐ Designer 2.0 for Windows	489.
6294	☐ DrawPlus 1.0 for Windows	289.

Microlytics ... NCP
8797	☐ Inside Information 1.0	68.
7931	☐ Random House Encyclopedia	68.

Microrim ... NCP
8065	☐ Personal R:BASE 1.0	79.
8064	☐ R:BASE 3.1	529.

Microsoft ... NCP
2894	☑ QuickBasic 4.5	69.
7010	☐ Windows 3.0	99.
7388	☑ Project 1.0 for Windows	459.
7882	☐ Productivity Pack 1.0 for Windows	45.
2904	☐ Works 2.0	99.
2901	☐ Word 5.0	209.
7387	☑ PowerPoint 2.0 for Windows	329.
6195	☑ Word 1.1 for Windows	329.
2856	☑ Excel 3.0 for Windows	329.
8137	☑ Office for Windows (includes Excel, Word for Windows & PowerPoint)	659.
2853	☑ C Compiler 6.0	329.
6133	☑ Excel for OS/2	339.
2859	☐ Fortran Compiler 5.0	289.
2847	☐ Basic Compiler 5.0	339.
2880	☑ Macro Assembler 5.1	99.
2890	☐ Multiplan 4.2	135.
5188	☐ Quick Pascal 1.0	55.
2895	☐ Quick C 2.5	69.
5410	☐ Quick C w/Quick Assembler 2.51	139.
7629	☑ Windows 3.0 Software Developer's Kit	339.
9274	☑ Word for OS/2 1.0	329.

Multisoft ... NCP
4925	☐ PC-Kwik Power Pak 2.0	75.
6805	☐ PC-Kwik Power Disk 1.0	49.
4924	☐ Super PC-Kwik 4.0	49.

Nantucket ... NCP
2970	☑ Clipper 5.0	529.

New England Software ... NCP
7062	☑ Graph-in-the-Box Executive 1.01	175.

Column 1

Nolo Press ... NCP
5122 □For The Record 2.0 .... 35.
2982 □WillMaker 4.0 .... 39.

Norton-Lambert ... NCP
4928 □Close-Up Customer/Terminal 3.0... 135.
4929 □Close-Up Support/ACS 3.0 .... 165.
5419 ▣Close-Up LAN 2.0 (2 user) .... 259.
5420 ▣Close-Up LAN 2.0 (8 user) .... 529.
5421 ▣Close-Up LAN 2.0 (16 user) ...... 639.
5422 ▣Close-Up LAN 2.0 (32 user) ...... 969.
5423 ▣Close-Up LAN 2.0 (64 user) ...... 1299.

On-Track ... NCP
5490 ▣Disk Manager 4.2 .... 49.

PC Globe ... NCP
5902 □PC Globe 4.0 .... 39.
5900 □PC USA 2.0 .... 39.

Personics ... NCP
9288 □Ultravision for Laptops 1.0 (3½" only). 49.
4384 ▣Ultravision 2.0 .... 79.
7048 ▣Monarch 1.0 (Data Mgmt. Tool) ..... 319.

Power Up ... NCP
7860 ▣Calendar Creator Plus 4.0 .... 45.
7861 ▣Address Book Plus 3.0 .... 49.
7858 ▣Express Publisher 2.0 .... 89.
8655 □Express Publisher Starter Kit .... 75.
7857 ▣Labels Unlimited 3.0 .... 42.
7859 ▣Company Ladder 1.0 .... 49.
7856 ▣Top Priority 1.0 .... 59.

Precision Software ... NCP
6600 ▣Superbase 4 for Windows 1.2 ..... 429.

Qualitas ... NCP
7539 □386MAX 5.1 .... 75.
7967 □BlueMAX 5.1 for PS/2 (3½ only) .. 85.

Quarterdeck ... NCP
6400 □Manifest 1.0 .... 39.
6422 □QRAM 1.0 .... 54.
3221 □Expanded Memory Mgr. 386 5.1 .... 65.
3220 □DESQView 2.3 .... 85.
4586 □DESQView 386 2.3 .... 145.

QUE Software ... NCP
4155 ▣RightWriter 4.0 .... 54.

Reality Technologies ... NCP
7891 ▣WealthStarter 1.0 .... 39.
6572 ▣WealthBuilder 1.1 .... 145.

Reference Software ... NCP
4396 ▣Grammatik IV 2.0 .... 59.
7483 ▣Grammatik for Windows 1.0 ...... 59.
7565 ▣Grammatik IV Business Pack 2.0... 149.
7567 ▣Black's Law Dictionary for
WordPerfect 5.0/5.1 .... 59.
7566 ▣Stedman's Medical Dictionary for
WordPerfect 5.0/5.1 .... 59.

Revolution Software ... NCP
4480 ▣VGA Dimmer 3.0 (screen saver) .... 29.
7608 ▣Cruise Control 3.0 .... 39.
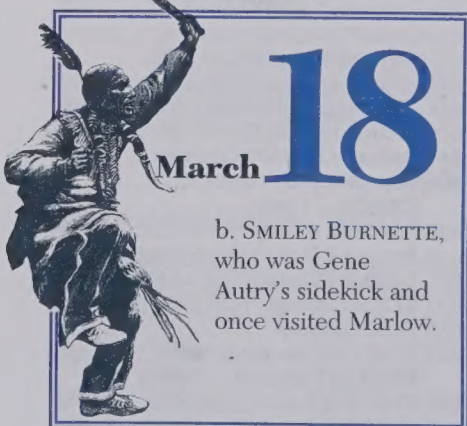
Marlow 18

b. SMILEY BURNETTE, who was Gene Autry's sidekick and once visited Marlow.

Roykore ... NCP
8162 ▣ABC Flowcharter 1.1 .... 189.

Samna ... NCP
5799 □Ami Pro 1.2 .... 309.

Sitka ... NCP
6675 □TOPS Network Bundle 3.0 .... 159.
3720 Flashcard 2.1 (AppleTalk ntwk. card) 155.

Softlogic Solutions ... NCP
3542 □Software Carousel 5.0 .... 55.

Software Publishing ... NCP
3496 □Professional Write 2.2 .... 169.
3482 ▣Harvard Graphics 2.3 .... 329.
3483 ▣Harvard Graphics Network .... 599.
7511 ▣Harvard Graphics Network Node ... 289.
7510 ▣Harvard Graphics Ntwk. Node (5 Pak) 1399.
3493 □Professional File .... 199.

Column 2

Solution Systems ... NCP
8912 □dBrief 3.0 .... 99.
7977 □Brief 3.0 (Programmer's Editor) ..... 189.
8915 □Sourcerer's Apprentice 1.0 .... 379.

Spinnaker ... NCP
4441 □Resume 1.32 .... 25.
4446 □8 in One 2.0 .... 39.
3478 □PFS:First Choice 3.1 .... 105.
7604 ▣PLUS for Windows 1.0 .... 289.

Symantec ... NCP
6397 ▣The Norton Backup 1.2 .... 105.
3152 ▣The Norton Commander 3.0 .... 105.
3146 ▣The Norton Utilities 5.0 .... 119.
3412 □Grandview 2.0 .... 199.
3427 □Q&A Write 1.01 .... 145.
3425 □Q&A 3.0 .... 239.
3431 □Timeline 4.0 .... 469.
7999 □Norton Anti-Virus 1.0 .... 89.

Systat ... CP
7415 ▣Systat 5.0 .... 649.

Systems Compatibility ... NCP
6571 ▣Software Bridge Network Node 4.1.... 39.
8215 □OutsideIn 1.0 .... 65.
6564 □Software Bridge 5.0 .... 79.
9046 □The Complete Writer's Toolkit 1.0 ... 85.

TIMESLIPS ... NCP
2987 □Timeslips III 4.0 .... 195.
6994 □PercentEdge 1.0 .... 69.

Timeworks ... NCP
6253 ▣Publish-It! 1.2 .... 139.

Touchstone Software ... NCP
9299 □Check It Floppy Drive Testing Sys. 1.02 89.
7420 □Check It 3.0 .... 89.
8517 ▣PC Test 1.01 .... 35.
8516 ▣PC Test with video 1.01 .... 45.

Traveling Software ... NCP
4190 ▣Battery Watch (3½ only) .... 35.
5179 □LapLink III 3.0 .... 95.

Ventura Software (Xerox) ... NCP
6505 □Formbase 1.1 .... 319.
7796 ▣Ventura Publisher for Windows 3.0 569.

Vericomp ... NCP
3765 ▣Softbytes 2.0 .... 35.
6771 ▣Memory Master 1.1 .... 45.

West Lake Data Corp ... NCP
7579 □Safety Net 2.0 .... 35.
7571 □Disk Minder 1.12 .... 39.
7577 □PC-FullBak+ 2.0 .... 52.
7573 ▣Value Pak (includes 4 programs) ... 69.
7574 ▣Pathminder Plus 1.0 .... 79.

Wolfram Research ... NCP
8281 □Mathematica 386 1.2 .... 599.

WordPerfect Corp. ... NCP
7781 ▣LetterPerfect 1.0 .... 129.
3804 ▣WordPerfect 5.1 .... 265.
6685 ▣DrawPerfect 1.1 .... 279.
4214 ▣Office PC 3.0 .... 89.
7592 ▣Office LAN (5 Pak) .... 329.
7593 ▣Office LAN (20 Pak) .... 1049.
3806 WordPerfect Network Node .... 169.
6507 ▣WordPerfect for OS/2 5.0 .... 319.
8971 ▣WordPerfect (5 Pak) .... 1175.
8970 ▣WordPerfect (20 Pak) .... 4199.

WordStar International ... NCP
6791 □WordStar Prof. 6.0 .... 219.

XTREE. ... NCP
6161 □XTree Gold 2.0 .... 95.

ZSoft ... NCP
7016 ▣PC Paintbrush IV Plus .... 119.
7531 □Softype .... 119.

EDUCATION & RECREATIONAL

Accolade ... CP
8692 ▣Ishido .... 32.
8081 □Jack Nicklaus' Unlimited Golf ... 39.
8169 □Test Drive 3 .... 39.
8079 □Search for the King .... 39.

Broderbund ... CP
1413 ▣Where/World is Carmen Sandiego... 32.
5701 ▣Where/Time is Carmen Sandiego .... 32.
1414 ▣Where/USA is Carmen Sandiego .... 32.
1417 ▣Where/Europe is Carmen Sandiego. 32.
8068 ▣Where in the World is Carmen
Sandiego Deluxe Edition .... 52.
5851 ▣SimCity .... 33.
8886 ▣SimEarth .... 45.

Centron ... CP
8672 □Casino Master .... 45.

Column 3

Electronic Arts ... NCP
6436 ▣Hunt for Red October .... 20.
7583 □Indiana Jones and the Last Crusade 25.
4534 ▣Mavis Beacon Teaches Typing (CP) 35.
8997 □Bard's Tale III: The Passion .... 35.
7865 □PGA Golf .... 35.
8109 □Harpoon .... 45.
8592 □Harpoon Battleset II .... 25.
8824 □Harpoon Battleset III .... 25.
8593 □Harpoon Scenario Editor .... 29.

Harvard Associates ... NCP
2324 ▣PC Logo 3.0 .... 59.

Konami/Ultra Software ... NCP
6194 □Teenage Mutant Ninja Turtles ... 29.

Learning Company ... CP
2673 ▣Magic Spells .... 23.
2671 ▣Math Rabbit .... 26.
2672 ▣Reader Rabbit .... 26.
2674 ▣Writer Rabbit .... 26.
8728 ▣Challenge of the Ancient Empires.... 29.
8742 ▣Midnight Rescue .... 29.
8730 □Out Numbered .... 29.
8727 ▣Treasure Mountain .... 29.

March 19
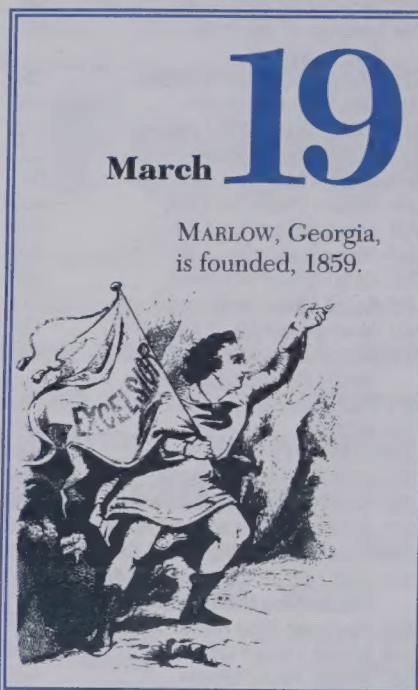
MARLOW, Georgia, is founded, 1859.

Microprose ... CP
4454 □F-19 Stealth Fighter .... 39.
5730 □F-15 Strike Eagle II .... 39.
5823 □Red Storm Rising .... 39.
6147 □M1 Tank Platoon .... 45.

Microsoft ... NCP
7881 □Entertainment Pak for Windows 1.0. 29.
8270 ▣Aircraft and Scenery Designer 1.0 ... 29.
8344 □Game Shop 1.0 .... 35.
2860 □Learning DOS 2.0 .... 35.
2858 □Flight Simulator 4.0 .... 42.

Microsoft Press (Books)
8127 Working with Word for Windows ... 20.
8126 Running with DOS 4th Edition..... 20.
8129 Running Windows (2nd Edition).... 22.
8136 Running Microsoft Excel .... 22.

Penton Overseas ... NCP
▣VocabuLearn/ce Levels I & II (French,
Italian, German, Spanish, Russian,
Hebrew and Japanese) ...... each 35.

PC Globe ... NCP
8759 □GeoJigsaw 1.0 .... 27.
8757 □Bushbuck Charms 1.0 .... 32.

Sierra On-Line ... CP
7368 ▣Hoyle's Book of Games II .... 24.
6023 ▣Leisure Suit Larry III .... 39.
8146 ▣Quest for Glory II .... 39.
8830 ▣Red Baron (VGA) .... 39.
6972 ▣Conquests of Camelot .... 39.
6022 □Colonel's Bequest .... 39.
5106 ▣Space Quest III .... 39.
9466 □Space Quest IV (VGA) .... 39.
7972 ▣King's Quest V (VGA) .... 45.

Sir Tech ... CP
8240 □Wizardry V .... 27.
8237 □Wizardry Trilogy .... 32.
8235 ▣Bane of the Cosmic Forge........ 39.

Column 4

Spectrum Holobyte ... NCP
3467 ▣Tetris .... 22.
5993 □Welltris .... 22.
5187 □Vette .... 25.
7602 ▣Faces .... 27.
7639 □Flight of the Intruder .... 39.

Spinnaker ... NCP
5580 □Sargon 4 .... 32.

Software Toolworks ... NCP
4659 ▣Chessmaster 2100 (CP) .... 35.
7372 □World Atlas .... 42.

Stone & Assoc. ... NCP
5231 ▣Phonics Plus 1.1 .... 22.
3435 ▣Letters, Numbers, Words 2.2 ... 22.
3434 ▣Kids Stuff 2.2 .... 22.
3433 ▣Algebra Plus 4.0 Vol. 1 .... 27.
8693 ▣Algebra Plus 4.0 Vol. 2 .... 27.
3439 □2nd Math 4.2 .... 27.

Studyware ... NCP
8225 ▣ACT Preparation 3.0 .... 32.
8226 ▣GMAT Preparation 3.0 .... 32.
8224 ▣GRE Preparation 3.0 .... 32.
8223 ▣SAT Preparation 3.0 .... 32.
8222 ▣LSAT Preparation 3.0 .... 36.

Sublogic ... NCP
6190 ▣Air Transport Pilot .... 39.

Toyogo ... NCP
7654 ▣Nemesis Tactical Wizard 4.7 .... 31.
7674 ▣Nemesis Go Master 4.7 .... 41.
7676 ▣Nemesis Go Master Deluxe 4.7 ... 88.

True BASIC, Inc. ... NCP
7586 ▣Algebra Utility .... 45.
3564 ▣Calculus Utility .... 45.
3590 ▣Precalculus Utility .... 45.
3591 ▣Probability .... 45.
3561 ▣True Basic 3.0 .... 52.

CD-ROM

CD Technology ... 1 year
8057 Porta Drive CD-ROM .... 649.
8105 Installation Kit for Standard Bus .. 00.
8106 Installation Kit for Microchannel ...... 249.

Microsoft ... NCP
2849 Bookshelf CD-ROM .... 189.

NEC ... CP
6636 Image Gallery (CD-ROM) .... 246.
6626 Image Folio (CD-ROM) .... 246.
6634 Photo Gallery (CD-ROM) .... 246.
6632 Type Gallery LaserJet (CD-ROM) .. 246.
6633 Type Gallery PostScript (CD-ROM)... 246.
6637 3D Clip Art (CD-ROM) .... 246.
6962 Type Gallery LJ Premium .... 1179.
6961 Type Gallery PS Premium .... 8999.

HARDWARE

Warranties listed next to manufacturer.

American Power ... 2 years
7516 AP940-0012 PS/2 Interface .... 35.
7104 AP9500 Novell Monitor Board...... 65.
7517 AP9003 PowerChute for Novell .... 69.
7108 Smart UPS 400 .... 339.
7105 Smart UPS 600LS .... 469.
9365 Smart UPS 900 .... 669.
9364 Smart UPS 1250 .... 8769.
6811 360SX (stand-by power source).... 219.
7106 520ES (stand-by power source).... 329.

AST Research ... 5 years
1299 SixPakPlus 384k C/S/P .... 179.
8041 SixPak 286 0k .... 99.
4107 Rampage Plus 286 512K Upgradable
to 8 Meg .... 419.
4427 Rampage Plus 286 with 8 Meg .... 879.

Boca Research ... 5 years
7001 BOCARAM/AT PLUS (0-8 Meg) .... 119.
8714 BOCARAM/AT PLUS 0K (0-8 Meg) .. 139.
7061 BOCARAM/XT 0K (0-2 Meg, LIM 4.0) 99.
6998 I/O Board for AT .... 59.
7350 I/O Board for XT .... 59.
6999 I/O Board for Microchannel (S/S/P)... 109.
8380 BasicVGA (256K, 640 x 480) ..... 69.
8381 SuperVGA (1 Meg, 1024 x 768) ... 145.
7135 Tophat (128K) .... 99.

Bravo Communications ... 2 years
7402 Parallel Line Extender .... 79.
7400 2 Pos. Laser Compatible Switch Box 109.
7401 4 Pos. Laser Compatible Switch Box 149.

Brother International ... 1 year
5788	HP-8PS	2595.

Brown-Wagh ... 1 year
8578	Creative Labs Sound Blaster	159.

Canon ... 1 year
7894	BJ-10e Printer w/free case (4.6 lb.)	349.
9037	BJ-300 Printer (80 column)	549.
9038	BJ-330 Printer (136 column)	649.
7897	BubbleJet Ink Cartridge	23.
7896	Cut Sheet Feeder for BJ-10e	75.

CH Products ... 1 year
8119	Flight Stick w/Falcon & Game Card III	79.
7345	Rollermouse (Trackball) serial 85.. bus	99.
7935	Game Card	33.
7341	Game Card III Plus (for Microchannel)	49.
8120	Flightstick w/MC Game Card	95.
9286	Mach I Plus Joystick	23.
9287	Mach III Joystick	35.
7338	Rollermouse PS/2	85.

Compucable ... 2 years
1604	2-Position switch box	25.
1605	3-Position switch box	35.
1606	4-Position switch box	45.

Curtis ... lifetime
1681	Curtis Clip CC-1	6.
7414	Super Clip CC-2	9.
1686	5¼" Disk File DB-1	8.
1687	5¼" Disk File w/Lock DBL-1	10.
1718	3½" Disk File DB-2	8.
1719	3½" Disk File w/Lock DBL-2	10.
7765	2 Printer Dataswitch DS-3	33.
7764	2 Computer Dat, switch DS-4	33.
1702	Parallel Printer Cable EC-6	17.
6992	Fax Stax FS-1	29.
6731	Glass Filter Plus GFP-1	65.
6732	Glass Filter Plus GFP-2	65.
6733	Glass Filter Plus GFP-3	65.
6734	Glass Filter Plus GFP-4	65.
6735	Glass Filter Plus GFP-5	65.
6736	Glass Filter Plus GFP-6	65.
6737	Glass Filter Plus GFP-7	65.
4530	Keyboard Space Saver KS-1	29.
1689	Diamond Surge Suppressor SP-1	32.
1690	Diamond Plus SP-1+	41.
1694	Emerald SP-2	36.
5833	Emerald Remote SPR-2	45.
1715	Safe Strip SP-3	19.
1713	Safe Strip Filtered SPF-3	24.
1709	Sapphire SPF-1	45.
1707	Ruby SPF-2	55.
1708	Ruby-Plus SPF-2+	65.
5832	Ruby Remote SPFR-2	65.
7358	Command Center SPF-4	89.
4531	52 piece Toolkit TK-2	55.

March 24

FRANKLIN PIERCE sells his Marlow, New Hampshire, property to Odd Fellows, 1903.

Datadesk ... 3 years
6901	Switchboard	175.

Epson ... 2 years
We are an authorized Epson Serivce Ctr.
1906	FX-850 (80 col., 264 cps, 9 pin)	call
1904	FX-1050 (136 col., 264 cps, 9 pin)	call
5183	LQ-510 (80 col., 180 cps, 24 pin)	call
1930	LQ-850 (80 col., 264 cps, 24 pin)	call

1917	LQ-1050 (136 col., 264 cps, 24 pin)	call
5184	LX-810 (80 col., 180 cps, 9 pin)	185.

Fifth Generation Systems ... 1 year
7157	Logical Connection Plus 512K	599.

Hauppauge Computer ... 1 year
9031	20 MHz 386 Motherboard for PC	995.
9032	20 MHz 386 Motherboard for XT	995.
9033	20 MHz 386 Motherboard for AT	995.
9034	33 MHz 386 Motherboard for AT	1399.

Hayes ... 2 years
2304	Smartmodem 1200	289.
2307	Smartmodem 2400	349.
2305	Smartmodem 1200B	189.
2308	Smartmodem 2400B	279.
8049	JT Fax 9600B w/Smartmodem 2400	379.
7391	Ultra 9600 Modem	799.
9192	EtherMate 8 (ethernet card)	199.
6655	V-Series 2400 Modem	469.
5991	V-Series 9600 Modem	719.

Hercules ... 2 years
2318	Graphics Card Plus	189.

Hewlett-Packard ... 1 year
7976	DeskJet 500 (w/ink cartridge)	549.
6582	LaserJet IIP (with toner)	949.
6754	LaserJet III (with toner)	1699.

Intel ... 5 years
6421	2400B MNP Internal Modem	199.
4696	2400B Internal Modem	149.
5119	2400 Baud External Modem	179.
6420	2400EX MNP Modem	229.
7880	9600EX Modem	549.
2346	Inboard 386/PC w/1 Meg	495.
5336	Above Board Plus 8 2 Meg	549.
5342	Above Board Plus 8 I/O 2 Meg	569.
7782	SatisFAXtion (fax board)	399.
8778	SatisFAXtion for Microchannel	449.
8901	Matched Memory 2 Meg (PS/2)	189.
8903	Matched Memory 4 Meg (PS/2)	499.

MATH COPROCESSORS
2375	80287	89.
2374	80287-2	129.
7386	80287XLT	199.
7385	80287XL (16 MHz 80286 CPU's)	199.
4750	80387SX (80386SX CPU's)	309.
2371	80387 (16 MHz 80386 CPU's)	349.
2372	80387-20 (20 MHz 80386 CPU's)	399.
4121	80387-25 (25 MHz 80386 CPU's)	499.

Kensington Microware ... 1 year
2588	Keyboard Slide Away	35.
2582	Master Piece Plus	109.
2587	Master Piece Remote	109.
7899	Expert Mouse serial 119. 7900 bus	129.
5894	PowerBacker 360	229.
5577	PowerBacker 450	319.
5230	PowerBacker 800	649.
5228	PowerBacker 1200	829.
4972	PowerTree 10	19.
4973	PowerTree 20	27.
4974	PowerTree 50	54.

Key tronic ... 3 years
4518	101 Plus Keyboard	99.

Kraft ... 5 years
5800	3 button Thunder Joystick	29.
5813	Game Card/Thunderstick Bundle	55.
7862	TOPTRACK (Laptop Trackball)	75.

LaserGo ... 1 year
8534	1 Meg Upgrade for LJIIP/III (with free copy of GoScript)	139.

Logitech ... limited lifetime
7768	C9 Mouse with Windows	149.
8382	Trackman (PS/2)	85.
6029	Trackman serial .. 85. 6028 bus	89.
4297	ScanMan Plus (hand scanner)	165.
4794	ScanMan Plus (Microchannel)	219.
7975	ScanMan 256	319.
8694	MouseMan (serial)	69.
8972	MouseMan (PS/2)	69.

Magnavox ... 1 year
5990	CM9032 13" VGA Monitor (.42 DP)	299.
4761	9CM062 13" VGA Monitor (.39 DP)	319.
4762	9CM082 13" VGA Monitor (.31 DP)	349.

Micron Technology ... 2 years
7595	2 Meg Expansion for HP LaserJet IIP or III	159.
7012	Memory Upgrade PS/2 70 - 2 Meg	149.
6013	Beyond Memory Board for PS/2 50 - 512K (expandable to 8 Meg)	359.
6943	Beyond Memory Board for PS/2 50 with 8 Meg	799.

Microsoft ... lifetime
7597	Microsoft Mouse	89.
2897	Mouse with Paintbrush	105.
2898	Mouse with Windows 3.0	149.

MicroSpeed ... 1 year
PC-TRAC Trackball
6007	serial	75.
	6008 bus	89.
7271	Inport	79.
	6330 PS/2	79.

Mouse Systems ... lifetime
5997	Trackball (1 yr. wrnty) serial. 65. bus	69.
7878	PC Mouse III (bus or serial)	89.

Moustrak ... lifetime
8576	Mouse Pad - Black (7 x 9)	8.
8548	Mouse Pad - Black (9 x 11)	9.
2694	Mouse Pad - Blue (7 x 9)	8.
2692	Mouse Pad - Blue (9 x 11)	9.
2693	Mouse Pad - Blue (Low Friction)	10.
2699	Mouse Pad - Gray (7 x 9)	8.
2697	Mouse Pad - Gray (9 x 11)	9.
2698	Mouse Pad - Gray (Low Friction)	10.

NEC ... 2 years
4799	Multisync 2A (VGA Monitor)	499.
5085	Multisync 3D Monitor	689.
6208	Multisync 4D Monitor	995.
6207	Multisync 5D Monitor	2389.

Looking Ahead to the next issues

THE ULTIMATE PAINT PROGRAM (A CHILDREN'S STORY!)

KNIT ONE, MODEMTWO

COMMAND-S TO SAVE SEEDS

Orchid Technologies ... 4 years
7512	ProDesigner VGA II (with 512K)	299.
7863	ProDesigner VGA II (with 1 Meg)	329.

PC Power & Cooling ... 1 year
REPLACEMENT POWER SUPPLIES
3206	XT Fan	55.
3199	AT Fan	69.
3203	Turbo Cool 200	149.
7915	Turbo Cool 300	165.
7051	Turbo 450	299.
3200	Silencer 150 (84% noise reduction)	115.
3201	Silencer 200	129.
7053	InnerSource 2210	349.

Pacific Data Products ... lifetime
7632	Pacific Outlines I	209.
7631	Pacific Outlines II	209.
6835	Headlines in a Cartridge	209.
6832	Plotter in a Cartridge (for LJ II, IIP, III)	249.
6779	25 Cartridges in One! (for LJ II, IIP, III)	275.
8816	PacificType (40 PostScript Typefaces for PacificPage PE 4.0 users)	275.
8975	Complete Font Library (for LJIII)	275.
	Memory upgrade for LaserJet IIP/III:	
7055	2 Meg	169.
	7759 4 Meg	279.
6839	Memory upgrade for LJ II/IID (1 Meg)	179.
6838	Memory upgrade for LJ II/IID (2 Meg)	249.
6836	Memory upgrade for LJ II/IID (4 Meg)	379.
7634	TEC Memory upgrade (2 Meg)	219.
7633	TEC Memory upgrade (4 Meg)	369.
7158	Pacific Page PE 4.0 (for LJ IIP/III)	379.
6834	Pacific Page with free 2 Meg Memory Board (for LaserJet II)	379.
7324	Pacific Print	235.
8091	Pacific Connect (256K)	275.
8090	Pacific Connect (1.25M)	349.
8092	Barcode Reader (for LaserJet IIP/III)	349.
8093	Barcode Reader (for LaserJet II)	349.

Panasonic ... 2 years
8142	KXP1180 Printer	175.
8141	KXP1191 Printer	249.
8143	KXP1124 Printer	299.
8144	KXP1624 Printer	439.

8140	KXP1695 Printer	439.
8615	KXP115 Ribbon for 1180/1191/1695	12.
8616	KXP145 Ribbon for 1124	12.
8617	KXP155 Ribbon for 1624	12.

Practical Peripherals ... 5 years
3101	1200 Baud Internal Modem	65.
3100	1200 Baud External Modem	75.
3103	2400 Baud Internal Modem	129.
3102	2400 Baud External Modem	179.
8993	2400 Baud V.42 bis Internal Modem	169.
8994	2400 Baud V.42 bis External Modem	209.
4542	2400 Baud Internal Modem for PS/2.	229.
8132	PM2400 Pocket Modem	109.
7934	PM9600SA Modem	489.
7870	Toshiba Laptop Modem 2400	139.

PSION ... 1 year
7086	MC600 Mobile Computer	2149.

Reflection Technology ... 1 year
7127	Private Eye (virtual display)	499.

SAFE Power Systems ... 2 years
6747	SAFE 400S	399.
4563	500VA Backup	379.
7913	650VA Backup	459.
7914	800VA Backup	599.
4560	1200VA Backup	739.

Targus ... lifetime
4899	Lap pac 1 Flight Nylon	55.
4900	Lap pac 2 Horizontal Nylon	55.
7028	Notebook Folio Pac 1	79.
7029	Notebook Folio Pac 2	85.
4901	Leather 1 Flight Nylon	139.
4902	Leather 2 Horizontal Nylon	139.
6037	Premier Leather Carrying Case	199.

TheComplete PC ... 2 years
8082	TheComplete Half Page Scanner/400 w/ReadRight Personal OCR Software	289.
6797	TheComplete Fax Portable	319.
4887	TheComplete Fax 9600	319.
5828	TheComplete Communicator	449.
4885	TheComplete Answering Machine	249.

Toshiba ... 1 year
6432	T1000SE Laptop	1269.
7628	T1000XE Laptop	1949.
7320	T3100SX Laptop	3995.

Tripp Lite ... 2 years
6199	Isobar 4-6 (4 outlets, 6 ft. cord)	49.
6200	Isobar 6-6 (6 outlets, 6 ft. cord)	59.
9193	BC350 (350W Battery Backup)	219.
6624	BC450 (450W Battery Backup)	269.
7889	BC1200 (1200W LAN Backup)	669.
6018	LC1200 (1200W Line Conditioner)	159.

Video 7 ... 7 years
5883	1024i VGA (includes 512k)	199.
4931	VRAM II 512k	369.

DRIVES

Conner Peripherals ... 1 year
8875	CP3044 40 Meg IDE HD (25 ms)	325.
8874	CP3184 80 Meg IDE HD (25 ms)	499.
8876	CP3104 100 Meg IDE HD (25 ms)	549.
8917	Dedicated Hard IDE Controller	29.
8918	Floppy/Hard IDE Controller	32.

IOMEGA ... 1 year
5116	Bernoulli II 44 Meg Internal	995.
5117	Bernoulli II Dual 44 Meg External	1969.
7551	Bernoulli II Transportable 44 Meg	997.
5113	44 Meg Cartridge Tripak (5¼")	269.
2500	PCB2 Controller	209.
2503	PC4B Controller Microchannel	299.

Mountain Computer ... 2 years
2917	40-60 Meg Internal Tape Drive	259.
2940	XT 40 Meg Internal Tape Drive	259.
5500	83-152M Internal Tape Drive	629.
2915	AT 40-60 Meg External Tape Drive	399.
2916	AT 40-60 Meg Ext. Tape Dr. w/power	489.
2938	XT 40 Meg External Tape Drive	399.
2939	XT 40 Meg Ext. Tape Drive w/power	489.
5502	83-152M Ext. Tape Drive w/Mach 2..	799.
7148	83-152M Ext. Tape Dr. w/Mach 2 MC	929.
5190	DC2000 Pre-formatted Cartridges ea.	35.
6153	DC2120 Tape Cartridge (5-Pack)	149.

Pacific Rim ... 1 year
5011	360K External Drive	179.
7727	360K External Drive (for PS/2's)	189.
5009	1.2 Meg External Drive (5¼")	209.
5010	1.2 Meg External (for PS/2's)	215.
6602	1.44 Meg External (for PC/XT/AT)	239.
8321	2.88 Meg External Drive	349.

Plus Development ... 2 years

6424	Hardcard II 80 Meg *(19 ms)*	599.
8304	Hardcard II XL 50 Meg *(9 ms)*	399.
8287	Hardcard II XL 105 Meg *(9 ms)*	689.

Seagate ... 1 year

2285	20 Meg Int. Hard Drive ST238R *(w/controller and cables, 65 ms)*	255.
2286	30 Meg Int. Hard Drive ST238R *(w/controller and cables, 65 ms)*	269.
4554	40 Meg Int. HD ST251-1 *(28 ms)*	269.
4624	80 Meg Int. HD 4096 *(28 ms)*	619.
7154	ST138R-1 *(for Model 25)*	359.
7155	ST138R-1 *(for Model 30)*	359.
7153	ST138R-1 *(for XT)*	359.

TEAC ... 1 year

4670	1.44 Meg Drive for PC/XT *(3½")*	79.
4326	1.44 Meg Drive for AT *(3½")* with Bastech software	99.
4951	720k Drive for PC/XT *(3½")*	69.
6951	1.2 Meg Drive for AT *(5¼")*	89.

DISKS/MEDIA

MAXELL ... lifetime

2789	5¼" MD2-D 360k Disks *(Qty. 10)*	10.

2792	3½" DS/DD 720k Diskettes *(Qty.10)*	13.
2793	3½" DS/HD 1.44Mb Diskettes *(Qty.10)*	21.

Sony ... lifetime

3291	5¼" DS/DD 360k Disks *(Qty. 10)*	9.
3297	5¼" DS/DD 720k Diskettes *(Qty.10)*	12.
3298	3½" DS/HD1.44Mb Diskettes *(Qty.10)*	19.
6148	3½" DS/DD *(3 Pack)*	29.
6375	3½" DS/HD *(3 Pack)*	49.
8185	QD2040 Tape Cartridge	19.
6712	QD600A Tape Cartridge	27.

3M ... lifetime

3943	DC2000 Tape Cartridge	20.
6065	DC2080 Tape Cartridge	25.
3944	DC600A Tape Cartridge	29.
5679	DC6150 Tape Cartridge	29.

MEMORY

6556	256k DRAMs *(100 ns, set of 9)*	call
5510	1 Meg x 9 SIMMs *(80 ns)*	call
5746	1 Meg Chips *(80 ns, set of 9)*	call
7813	256k x 4 Chips	call
6114	64k x 4 Chips *(80 ns)*	call
4789	64k *(150 ns or better, set of 9)*	call
3241	256k x 9 SIMM	call

Spring Fever

In Marlow, sales such as these are looked forward to as much as the annual "Spring thaw." So, we've packed away those wool sweaters and long johns, tapped the sugar maples, and begun some Spring cleaning. PC Connection is now offering the following selected merchandise at unheard of prices. Some products are older versions, discontinued stock, slightly used, repaired or the packaging is damaged. All items are covered by our usual policies, including a 120 day warranty. For questions regarding compatibility with your system, please contact our Sales Department. When ordering, please refer to the 4 digit item number. Quantities are limited so call soon.

Call 800/800-0020

COMPUTER TABLES

These computer tables were originally manufactured for IBM. They are all new, 29" deep and come with one open shelf with full modesty panel. They have 26" legs with adjustable feet and 1⅛" laminated top with rounded corners. An exceptional value.

ITEM#	PRODUCT	QTY.	PRICE
5076	2' Simulated Oak Computer Table with Shelf	111	$79.
5077	3' Simulated Teak Computer Table with Shelf	11	89.
1064	Typewriter Stand with Drop Leaves *(Black metal base with laminated top. Soft rubber casters, two locking. Modesty panel around three sides. Size extended: 52W x 18D. Drop leaves collapsed: 24W x 18D. Height 29").*	112	69.

HARDWARE

ITEM#	MANUFACTURER	PRODUCT	CONDITION	QTY.	PRICE
5484	AST Research	Rampage 286 512k	Opened	1	$149.
5471	AST Research	Six Pack Plus w/256k	Opened	1	79.
5483	AST Research	Six Pack Plus w/384k	Opened	1	85.
5367	Amdek	600S Monitor	Opened	1	99.
5368	Amdek	600T Monitor	Opened	1	99.
3744	DCA	IRMA Keyboard	Opened	2	59.
5479	Everex	2400 Baud Internal Modem	Repaired	3	39.
6404	Hercules	TOPS Network Card Plus	New	6	79.
7906	Hewlett-Packard	DeskJet Plus - Inkjet Printer	Slightly Used	1	499.
7730	Hewlett-Packard	LaserJet II Legal Cassette #92275C	Opened	2	49.
8130	Hewlett-Packard	LaserJet III with Toner	Opened	1	1499.
7733	Hewlett-Packard	DeskWriter - Inkjet Printer for Mac	Opened	1	649.
8131	Hewlett-Packard	LaserJet II/III Envelope Tray #92297F	Opened	2	55.
7731	Hewlett-Packard	LaserJet II/III Legal Tray #92275F	Opened	2	49.
7823	Hewlett-Packard	LaserJet IIP Envelope Tray #92275F	Opened	2	55.
7018	Hewlett-Packard	LaserJet II Printer	Opened	1	1299.
8817	Iomega	Bernoulli II Transportable 44 Meg Drive	New/Opened	1	869.
5361	Keytronics	101 Plus Keyboard	Repaired	12	49.
5481	Keytronics	5151 Keyboard	Repaired	1	49.
5482	Keytronics	5153 Keyboard	Repaired	1	99.
6413	Mountain	AT 40 Mb Ext. Tape Drive (1 floppy)	Opened Box/Disk Damaged	2	99.
6418	Mountain	AT 40 Mb External Tape Drive (2 floppy)	Opened	5	99.

HARDWARE

ITEM#	MANUFACTURER	PRODUCT	CONDITION	QTY.	PRICE
6412	Mountain	AT 40 Mb External Tape Drive (w/power)	Opened	1	$149.
6407	Mountain	AT 40 Mb Internal Tape Drive	Opened	2	99.
6414	Mountain	AT 40 Mb Internal Tape Drive (2 floppy)	Opened	14	99.
6816	Mountain	AT 60 Mb External Tape Drive (w/power)	Opened	1	499.
6417	Mountain	Bernoulli Dual 20 Mb Internal Drive	Opened	2	499.
6504	Mountain	Bernoulli Single 20 Mb External Drive	Opened	2	499.
6416	Mountain	XT 40 Mb External Tape Drive (1 floppy)	Opened	1	99.
6415	Mountain	XT 40 Mb External Tape Drive (2 floppy)	Opened	2	99.
6817	Mountain	XT 40 Mb External Tape Drive (w/power)	Opened	1	149.
6593	Mountain	XT 40 Mb Internal Tape Drive (2 floppy)	Opened	2	99.
6402	Princeton	Max15 Monochrome Monitor	Repaired	1	199.
7905	Seagate	ST225 20 Mb Hard Drive Kit	Repaired	16	159.
3747	Seagate	ST225 (20 Mb Hard Drive only)	Repaired	10	125.
5153	Seagate	ST238 30M RLL HardDrive Kit	Repaired	27	189.
3749	Seagate	ST238 (30M Hard Drive only)	Repaired	15	145.
6046	Seagate	ST251-1 40 Mb HD w/Controller	Repaired	23	249.
4191	Seagate	ST251 (40 Mb Hard Drive only)	Repaired	18	225.
4894	Seagate	ST4096 80 Mb Hard Drive	Repaired	15	459.
5328	Teac	1.44 Mb AT Floppy Drive	Repaired	25	49.
5322	Teac	1.44 Mb PC Floppy Drive	Repaired	15	49.
8211	Teac	360K AT Floppy Drive	Repaired	2	35.
5323	Teac	360K PC Floppy Drive	Repaired	17	35.
5329	Teac	720K AT Floppy Drive	Repaired	20	39.
5330	Teac	720K PC Floppy Drive	Repaired	23	39.
8822	Teac	1.2 Mb AT Floppy Drive	Repaired	7	45.
8156	Teac	1.2 Mb PC Floppy Drive	Repaired	4	45.
6403	Toshiba	EMS Card 1 Mb for T1100+/T1200 Laptops	New	2	199.
6409	Toshiba	1200 Baud Modem for T1100+ and T3100	New	1	99.
5478	Toshiba	1.2 Mb AT Floppy Drive	Opened	1	49.
5477	Toshiba	1.44 Mb AT Floppy Drive	Opened	2	59.
5487	Toshiba	360K AT Floppy Drive	Opened	2	39.
6818	Toshiba	P351SX Printer	Opened	1	199.
8297	Toshiba	T1000 Laptop	New/Opened	1	499.
6408	Toshiba	1200 Baud Modem for T1000	Opened	4	99.
6819	Toshiba	T3100E Laptop	Opened	1	1799.
8379	Toshiba	T3200SX Laptop	Opened	1	3679.
3746	Western Digital	WX-1 Hard Drive Controller Card	Opened	10	15.
3748	Western Digital	27X RLL Hard Drive Controller Card	Opened	21	20.

Have Printer, Will Travel

Business trips usually mean lugging loads that rival those of a pack mule. Not so however with the Canon **BJ-10e**. This small wonder combines precision and style in a perfectly portable package. Its compact size (12¼"W x 8½"D x 1⅞"H) allows it to slip right into a briefcase, and weighing in at four pounds, you'll almost forget that you've got a printer in tow. But even its light weight doesn't mean that it's a lightweight. The BJ-10e produces 83 characters per second in high-quality mode, and its ability to handle company letterhead, envelopes, bond paper and transparencies, make the BJ-10e a petite powerhouse.

Canon employs the unique BubbleJet technology, where ink in very fine nozzles is heated to form tiny bubbles. As the bubbles grow, the ink is sprayed onto the page, drying instantly. The result is clean text and bold graphics in seconds. A single ink cartridge produces approximately 700,000 crisp characters and replacement, when necessary, is simple. Its operation is so smooth and quiet (45 dBA), you can almost hear a bubble pop.

The BJ-10e supports a wide variety of software applications because it emulates both the Canon BJ-130e and the IBM ProPrinter X24E. A single control panel makes it a snap to adjust type size and quality mode, and a standard centronics interface lets you plug right in to the parallel port on your PC or laptop.

When you're out and about, the BJ-10e can operate without an AC outlet when you install the optional NiCad battery pack. Back at home you can attach the add-on 30 sheet automatic paper feed to transform the BJ-10e into a letter quality desktop printer. The BJ-10e is such a sure bet, the toughest choice you'll have to make is whether to buy the black or white model.

Canon ... 1 year
7894 BJ-10e Printer *(black)* .... **$349.**   7893 BJ-10e Printer *(white)*.. **$349.**

A Better Mousetrap

Tired of chasing your mouse all over the desk? If you're like most people, you simply don't have enough room on your desk to use a conventional mouse. Try the Kensington **Expert Mouse**. Its trackball design means it stays where you put it, all you have to do is move the ball. Opto-mechanical construction means fewer moving parts and improved reliability.

Kensington ... 1 year
7899 Expert Mouse *serial* .... **$119.**
7900 Expert Mouse *bus* .... **129.**

PC Connection
6 Mill Street
Marlow, NH 03456
800/800-0020

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